

# PULP & PAPER

NOVEMBER 1951

Vol. 25

No. 12

*The Paper Age*



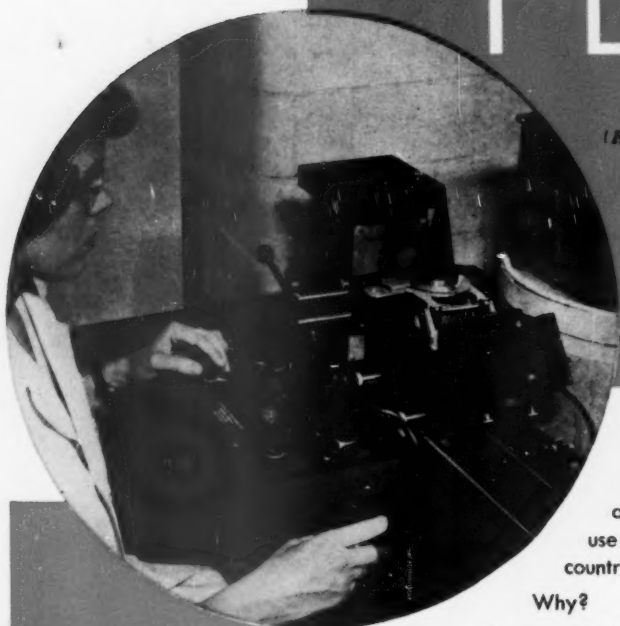
**ESCANABA PAPER CO.—NEAR ESCANABA IN NORTH MICHIGAN**

This mill is a subsidiary of the Mead Corporation. It pioneered in bleaching groundwork. "Machine coating" is on one of its two machines. See page 46.

# PEXOL\*

(HERCULES FORTIFIED SIZE)

**AN IMPORTANT  
DEVELOPMENT  
FOR PAPER  
MAKERS**



Hercules' Pexol, formerly known as Dresinate® 209, is gaining wide use among paper mills all over the country.

## Why?

Because this fortified rosin size is cheaper to use than conventional sizes—mill operators report that Pexol is highly efficient, particularly for difficult sizing problems.

Pexol is readily available in paste or dry form. Try it and prove to yourself how this fortified rosin size can help you solve difficult sizing problems and save money, too.

Hercules' research is constantly at work to produce new and better products for the paper industry such as Pexol and Size-Aid. Illustrated above is the Hercules Photometer, a precision tool developed by Hercules to measure accurately transudation rates of liquids through paper.

For further information and technical data about Hercules' research in the papermaking industry, or for samples of Pexol or Size-Aid, write to:

## SIZE-AID\*

GAINS WIDE USE, TOO

Hercules' Size-Aid, formerly known as Dresinate® 211, is a dry, concentrated size additive formulated to increase the efficiency of rosin size.



**HERCULES POWDER COMPANY**

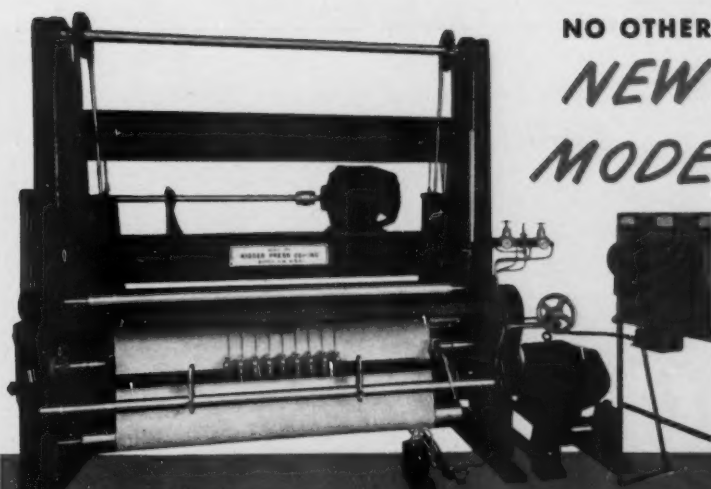
INCORPORATED

Paper Makers Chemical Dept., 965 King Street, Wilmington, Dela.

\*TRADE-MARK

PP51-9





# NO OTHER SLITTER LIKE IT! NEW KIDDER MODEL **G.T.**

**HAS NO GEARS...**

**upkeep greatly reduced!**

**noise practically abolished!**

**200-lb. tag stock easily slit!**

**FOR EASIER, LOWER COST SLITTING, INVEST IN THE GEARLESS KIDDER MODEL G.T.**

## YOU GET ALL THESE FEATURES:

**Replaceable V-belts** — no dismantling.

**Rotating members** (except mill roll shaft) mounted on sealed anti-friction bearings.

**Packaged motor drive**, including M. G. set. Main motor and mill roll brake on right of machine.

**Shear-action cutting.** Shaft-mounted, two-edged back cutters,  $\frac{1}{8}$ " wide, driven slightly faster than web. Ball bearing front cutters, rotating by pressure against back cutters, kept sharp by latter's harder metal.

**Wound slit webs** — either on core or collapsible shaft — in cradle formed by two drums, under pressure from a third above. Two drums main motor driven. Top roll driven by rheostat-controlled auxiliary motor.

**Controlled hardness.** Varying pressure and speed of top roll assembly heavy enough to wind hardest roll. Pneumatic cylinder provides counterbalance from zero to complete lift.

**Web tension** provided by water-cooled, rotating-disc brake. A mechanical uniform constant tension device is also available.

**Wrinkle-smoothing bow bar** handles baggy stock. Adjustable to any angle, can press web's center or edges, combining with mill rolls' bias adjustment to keep web straight and taut.

**Model G.T. Gearless Slitter** comes in 42", 54", 65", 74", 84", 94" width trim; 1000 to 1500 fpm speeds. — Kidder engineers will recommend motors of correct capacity. Standard Model: 26" rewind roll; Special Model: 40" rewind roll.



- give you*
1. Clean, Accurate Cutting
  2. High Speed, Dustless Operation
  3. Easy Separation of Rolls

**KIDDER PRESS COMPANY, INC.**  
DOVER, NEW HAMPSHIRE

C. P. ROBINSON  
Graybar Bldg., New York 17, N. Y.

**MACHINERY SERVICE COMPANY**  
P. O. Box 33, Los Angeles 11, California

**MAIL COUPON TODAY**

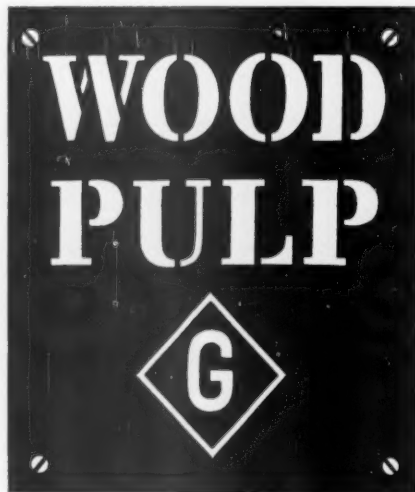
**KIDDER PRESS COMPANY, INC.**  
Dover, New Hampshire

Gentlemen:

Please send me complete information on the quieter, smoother-working, cost-reducing Kidder Model G.T. Slitter. I understand this will be sent at no cost or obligation to me.

Name ..... Position .....  
Company .....  
City ..... Zone ..... State .....  
Materials to be slit (attach sample) .....  
Narrowest cut ..... Finished roll dia. ....

*Established 1886*



"With sufficient force, any weight may  
be moved."

ARCHIMEDES

Apply enough thought . . . exert enough effort . . . almost anything within reason can be achieved. Prodigious strides have been taken toward solving the varied and complex problems confronting the Pulp and Paper Industry throughout the years.

The continuing vision, courage and determination characteristic of the Industry assure further substantial progress.

★

## **GOTTESMAN & COMPANY**

— INCORPORATED —

100 PARK AVENUE

•

NEW YORK 17, N. Y.

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# PULP & PAPER

"The Cellulose Age"  
PRODUCTION AND MANAGEMENT JOURNAL  
OF THE  
NORTH AMERICAN PULP AND PAPER INDUSTRY

A MILLER FREEMAN PUBLICATION

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## What Sound Money Means

"Sound money is the backbone of a strong nation. A sure road to demoralization and despair is the steady depreciation of a nation's currency and the disappearance of the material benefits of sound money. Putting more money in circulation by financing the defense program through deficits would endanger the very foundation of our welfare and security." William H. Ruffin, president, National Association of Manufacturers.

## Government Is Far Behind Business Thinking

"That our government thinking and methods are far behind our business thinking and methods is the conviction of Dr. Henry Colestock, former head of the history department of Bucknell College.

"Why do we have superb strength in our industry while at the same time we are woefully weak in our government, in our education and our religion?" he asks.

"His answer is that our industrial thinking is up-to-date. We spend billions of dollars to perfect our industrial machine. We make constant changes. Nothing old is sacred merely because it is old. In government we are still using the ideas of 1787. Dr. Colestock is of the opinion that our Constitution should be scrapped and a new one adopted that will meet the needs of today.

"Don't think that Dr. Colestock is a fiery young radical. He is 82 years old and knows the history of nations about as well as most people know their ABC's . . ."—from Rice Barton Corp.'s High Road.

## About Our New Directories

The 1951 edition of PULP & PAPER's "Mill Directory—Pacific Coast"—to use its official name—is the first revision since the 1948 edition. Included in the tabulation of key personnel, productive facilities and capacities, type of production, and other important data, are all the pulp and paper mills in the Far Western region, including British Columbia.

The publication of our new "Mill Directory—The Southern States," uses a similar format and general contents are equally comprehensive. The Southern States directory covers every mill from Texas to Maryland, and is the first volume of this kind in handy, useful, separate volume to ever be published.

The quickest way of securing a copy of either Directory is to write to PULP & PAPER, 71 Columbia Street, Seattle 4, Wash., or 3518 Dante St., New Orleans 18, La.

Price is \$3.50 for either edition; or both for \$6.00; or with subscription to PULP & PAPER, either directory can be included for the reduced rate of \$5.50.

We hope our friends, new and old, will be pleased with these new efforts to provide a constructive service to the industry.



PULP & PAPER circulates all over the world. It is read in virtually every pulp and paper company office and mill throughout the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Australia and New Zealand. It is read in many other offices and mills in Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Uruguay, Venezuela, England, Ireland, Scotland, Sweden, Norway, Finland, France, Germany, Austria, Belgium, Holland, Czechoslovakia, Italy, Spain, Switzerland, Soviet Russia, Poland, Yugoslavia, India, Pakistan, Israel, South Africa, China, Japan, Formosa, both near and far around the world, where pulp and paper are made.

## Tough Job Well Done!

Allocation of a material in tight supply is generally a thankless job, and one that can not possibly be administered to the satisfaction of everyone affected. That is why the work of the administrators of the NPA Pulp Consumption Limitation Order M-72 is particularly to be commended. For the pulp and paper industry has recognized that the order has been administered fairly—with no favorites played. PULP & PAPER would like to pay its tribute to L. D. Nicholson, A. Murray Howe, and James Ritchie for the fine service they have rendered their country and their industry under difficult circumstances.

## Paper Proves Its Value

The Kansas City flood this past summer dramatized the emergency value of paper cups and containers when washed out pumping stations forced the city to ask householders and non-essential establishments to ration water. The water shortage was especially critical because of a blaze which destroyed seven city blocks. The city health director asked restaurants to use paper service or close.

Paper jobbers and drug companies, which fortunately had an unusually large supply of paper goods on hand because of the 30 days of rain preceding the disaster, rushed supplies to restaurants, hospitals, Red Cross, and the Salvation Army. Trailer trucks replenished the city's stock, and the Carpenter Paper Co. chartered a plane to fly in 100,000 cups from Topeka for the Red Cross. In one week end, 10 million paper cups and plates were used. Use of paper was so extensive that it aroused comment in the Kansas City Star's humor column, "Starbeams."

## IN THIS ISSUE

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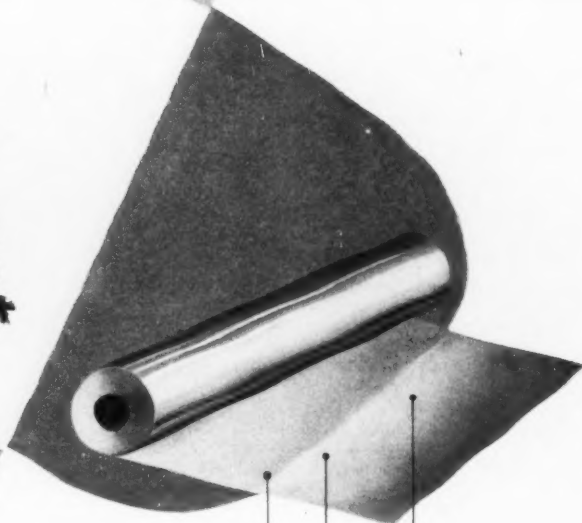
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# RAYONIER

INCORPORATED



**Product protection and eye appeal** are provided for a wide variety of articles by transparent packaging materials made from wood.

Cellophane, and cellulose acetate transparent film and sheet, are used increasingly for packaging food products and flowers—toiletries and tools—clothing and candy bars—cigarettes, and many other articles.

These packaging materials are made from highly purified cellulose derived from wood. Rayonier's job is to produce specially developed types of this chemical raw material for use in manufacturing these protective wrappings.

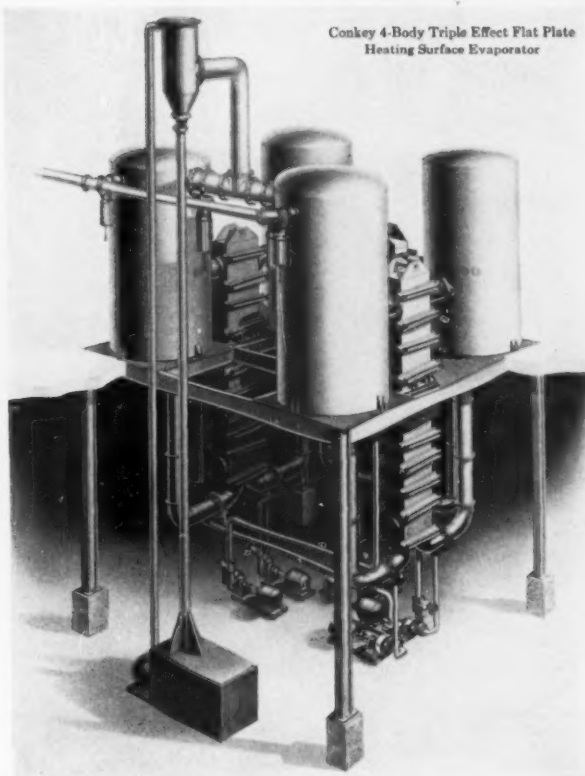
*Producers of highly purified wood cellulose for textiles, tire cord, cellophane, plastics*

**EXECUTIVE OFFICES:**  
122 East 42nd Street, New York 17, New York

**MILLS:**  
Hoquiam, Port Angeles, Shelton, Washington;  
Fernandina, Florida



**NO** *shut down time!*  
*stream pollution!*  
*scale removal costs!*



Conkey 4-Body Triple Effect Flat Plate  
Heating Surface Evaporator

## Conkey Flat Plate Heating Surface Evaporator *with Rosenblad Switching System\**

The proven system for avoiding stream pollution by sulphite pulp mill waste liquors that proved so outstandingly successful in commercial installations all over Scandinavia, is now adapted for use in this country by General American. *In every instance where a Rosenblad Switching System has been installed, shut down time and scale removal costs have been practically eliminated!* The Rosenblad System utilizes the condensate wash as a descaling operation carried on during full capacity operation of the evaporator. Surfaces subjected to boiling liquor are periodically switched with those in contact with vapor and condensate to clean heating surfaces during normal continuous operation. *Every part of the equipment is switched, consequently scale is washed away from pipe lines, valves and vessels . . . in addition to heating surfaces.*

At present in this country . . . Rosenblad Switching Systems in Conkey Flat Plate Heating Surface Evaporators are being constructed for full scale commercial operations. *Write today for detailed bulletin.*

\*Patents Applied For

**GENERAL AMERICAN**

**PROCESS**



**DIVISION**

**TRANSPORTATION CORPORATION**

**EQUIPMENT**

*Sales Offices: 10 East 49th Street, New York 17, New York  
General Offices: 135 South La Salle Street, Chicago 90, Illinois*

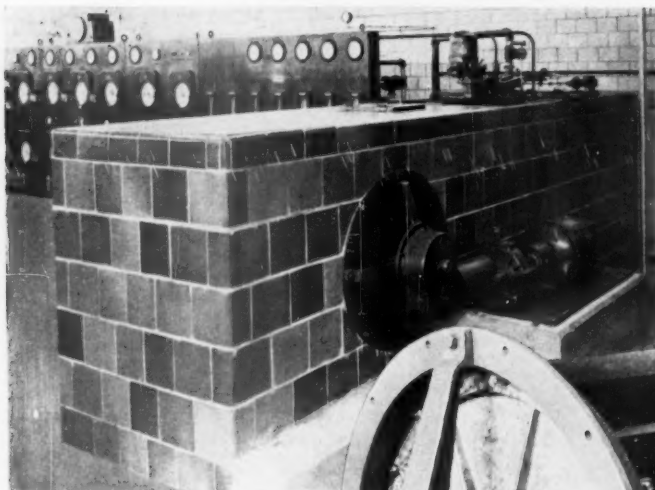
*Sole licensee in the U. S. A. for the A. B. Rosenblads Patent  
Evaporator Switching System*

**OFFICES IN PRINCIPAL CITIES**

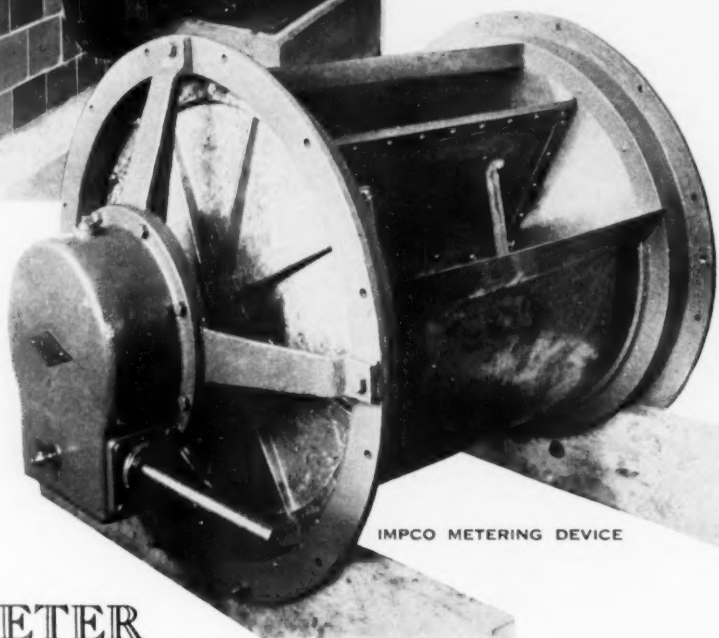
*Other General American Equipment:*

*Turbo-Mixers, Filters, Dewaterers, Dryers, Towers, Tanks, Bins, Pressure Vessels*

# INCREASED CAPACITY---



**SMOOTHER FLOW**  
**REGULATED CONSISTENCY**  
**MEASURED RATE**



**WITH THE**  
**IMPCO**  
**STOCK METER**

IMPCO METERING DEVICE

Most pulp and paper making equipment is rated conservatively so that it has a margin of capacity to absorb peak loads either of capacity or of consistency. If a machine can be operated at a steady rate well up towards its peak, up to 30% extra capacity may be obtained without penalizing performance.

The "Impco" Stock Meter is an adjustable volumetric measuring device which enables you to realize this extra capacity from your equipment. Preceded by a consistency regulator, it gives a fixed flow of a regulated consistency and thus uniform tonnage control. Adaptable to tile, metal, concrete or wood vats.

**IMPROVED  
PAPER MACHINERY  
CORPORATION**

NASHUA · NEW HAMPSHIRE

*Sherbrooke Machineries Limited manufacture similar equipment in Canada*



you **GO**  
with  
**OHIO GREEN**



**OK** BATTLE AXE CHIPPER  
KNIVES take heavy feeds and cuts in  
high heat, without chipping or cracking  
... and there's a reason ... **HIGH**  
**ALLOY STEEL**—especially heat treated  
for maximum toughness.

You **CUT COSTS** because you're  
saving time. Less grinding time — a  
minimum of replacement.

**OHIO KNIFE Co.**

CINCINNATI 23, OHIO

**WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF KNIVES**



Yarway Type "B" Seatless Blow-Off Valve  
shown in closed position.

**WHAT?**

**NO SEAT?**

● That's right! In this Yarway Blow-Off Valve there is no seat to score, wear, clog and leak.

The unique balanced sliding plunger design eliminates a common cause of blow-down valve trouble—the seat. Many boiler shut-downs are saved . . . power interruptions avoided . . . production speeded.

Latest metallurgical improvements also make Yarway the ideal blow-off valve for difficult service where acid washing is used.

Yarway Seatless Blow-Off Valves are available singly or in tandem combinations for all pressures up to 1500 psi. For higher pressures up to 2500 psi, specify Yarway Stellite-seat valves.

For the latest information on blow-off valves, get Yarway's newest catalog—B-424 for pressures to 400 psi, B-433 for higher pressures.

**YARNALL-WARING COMPANY**  
103 Mermaid Avenue, Philadelphia 18, Pa.  
Branch Offices in Principal Cities

**YARWAY**

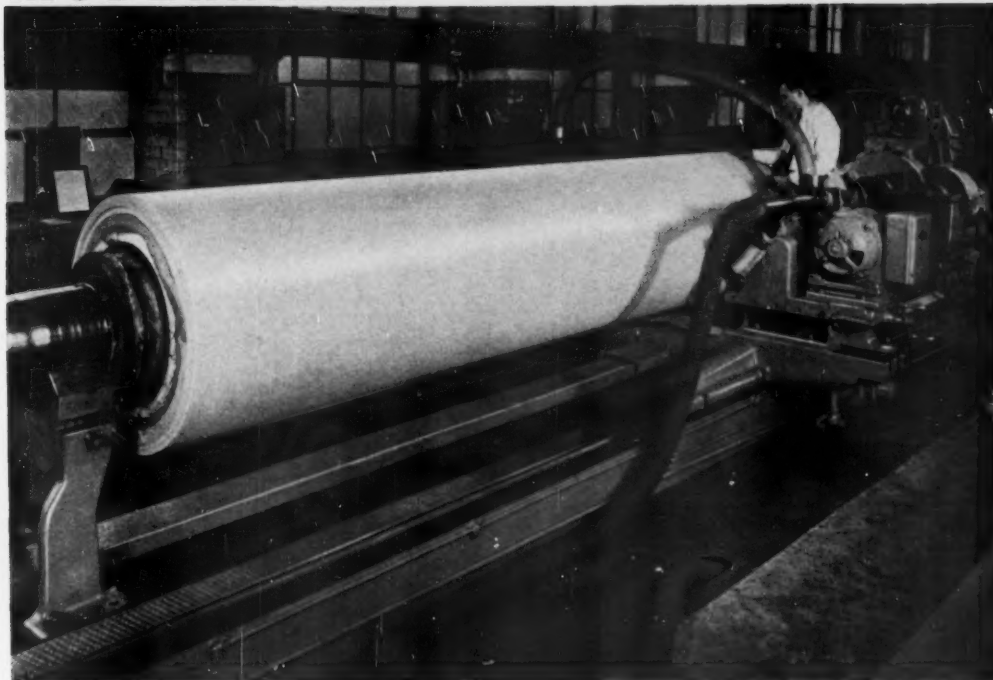
**BLOW-OFF VALVES**

**STOP BLOW-DOWN TROUBLES—KEEP BOILERS ON THE**





# MODERNIZED LOBDELL ROLL GRINDER



Photograph courtesy of Manhattan Rubber Division

at **RAYBESTOS-MANHATTAN, INC.**

MANHATTAN RUBBER DIVISION

Passaic, New Jersey



Installed in 1937 at Charleston, S. C., this No. 5 Grinder was recently modernized and put into operation at the Passaic, N. J. plant of this company.

Mounted on a recessed founda-

tion, this machine—equipped with dust removal system and auxiliary extension mechanism—now has the capacity to grind 60-inch diameter rolls with 288-inch face.

Perhaps, you too, have a Lobdell grinder that has been in service for years. Our representative will be glad to discuss MODERNIZATION.

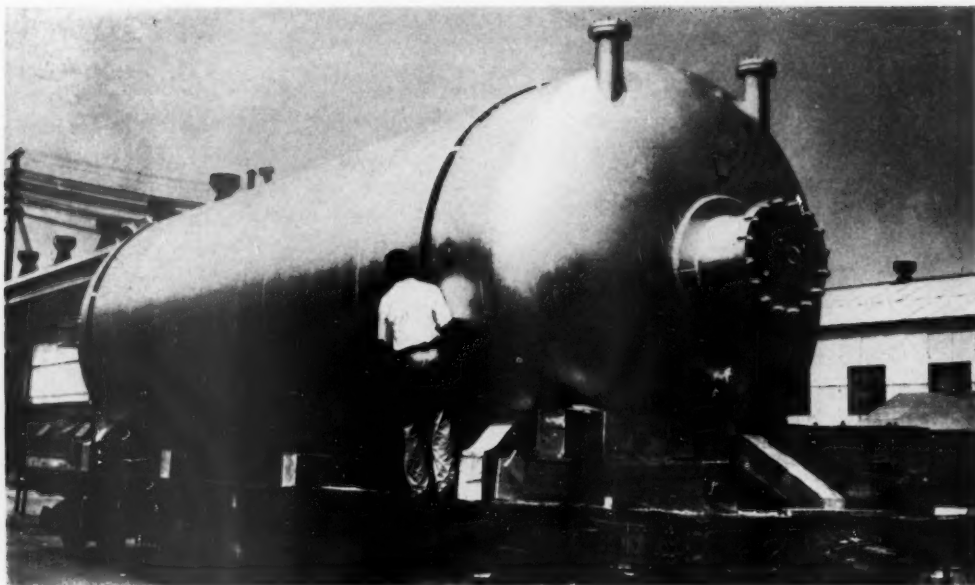
1836

**LOBDELL UNITED COMPANY**

WILMINGTON 99, DELAWARE

A SUBSIDIARY OF UNITED ENGINEERING AND FOUNDRY COMPANY

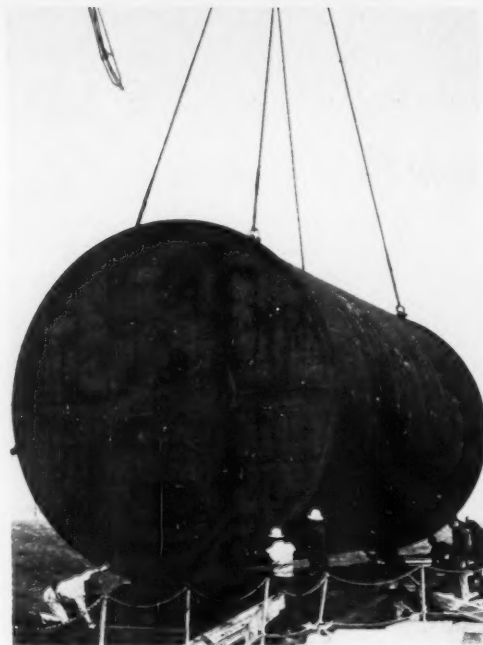
1951



## SHIPMENT BY RAIL OR WATER

A portion of the recent production of equipment for pulp and paper mills at Newport News has included the digester above and the flow tank on the right.

The flow tank was delivered by use of the deep water facilities at Newport News, while the digester was shipped by direct rail transportation. Shipment was expedited in both instances by use of these facilities.



**NEWPORT NEWS**  
SHIPBUILDING AND DRY DOCK COMPANY  
Newport News, Virginia



controlled seepage...  
no sogginess...

## meat board remains firm

### when treated with Cyanamid ALWAX\* Sizes

When fortified with Cyanamid's ALWAX sizes, meat board acquires *controlled* absorbency, with no danger of sogginess. And meat containers for frozen foods remain firm even after they and their frozen contents have been thawed.

A high degree of lactic acid resistance makes boards sized with ALWAX sizes ideal for the dairy field. Among the working properties inherent in papers sized with ALWAX sizes are better folding, crimping, scoring and creasing qualities.

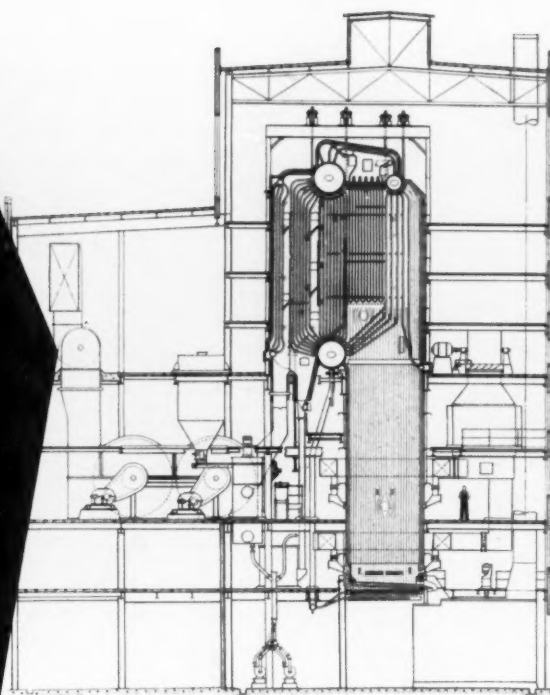
There are many other processing advantages to be gained from the use of specific ALWAX sizes to meet particular needs. Your Cyanamid representative will be glad to tell you about them. Call him in today, and send for our booklet "Quality Advantages Gained With ALWAX and WAXINE® Sizes."

ALWAX\* Sizes • WAXINE® Sizes • Rosin Size • PAREZ® Resins  
AZITE® 900 Liquefier • Synthetic Resins • Casein • Sulfonated  
Oils • Fillers • Defoamers • Soda Ash • Caustic Soda • Salt  
Cake • Acids • Clays • AEROSOL® Wetting Agents • CALMICRO®  
Calcium Carbonate • Aluminum Sulfate • Sodium Phospho  
Aluminate. \*Trade-mark

Sales Offices: Boston • Philadelphia • Pittsburgh • Baltimore  
Charlotte • Cleveland • Cincinnati • Chicago • Detroit • Kalamazoo  
St. Louis • Los Angeles • San Francisco • Seattle  
In Canada: North American Cyanamid Limited, Toronto and Montreal



**RECOVERY  
UNIT  
STEAM  
TEMPERATURE**  
*Reaches  
New High*



The trend of the pulp and paper industry, during the past few years, towards higher steam pressures and temperatures, reached a new high recently with the installation of two new C-E Recovery Units in a southern plant of one of the large pulp and paper companies.

These units — which rank with the largest yet built — have a nominal capacity of 1,000,000 pounds of dry solids per 24 hours each, and are designed to produce steam at a pressure of 860 psi and a temperature of 825 F.

C-E Recovery Units, now in service or on order, which are designed for high pressures or high temperatures — or both — are listed at the right.

It is not surprising that Combustion Engineering—Superheater, Inc., having been in the forefront of progress and development of the modern chemical recovery unit, is identified with most of the high pressure — high temperature units now in service or in process of fabrication.

B-529

	Oper. Press. psi	Total Steam Temp.
Gaylord Container Corp.	875	825
International Paper Company (Southern Kraft Division)	860	825
Longview Fibre Company	825	750
Macon Kraft Corporation	865	800
Mead Corporation	875	825
St. John Sulphite Ltd.	870	825
St. Regis Paper Company	625	825



**COMBUSTION ENGINEERING—  
SUPERHEATER, INC.**

200 Madison Ave. • New York 16, N. Y.

Los Angeles—510 West 6th Street; San Francisco—116 New Montgomery Street; Seattle—Skinner Building

PRODUCTS FOR THE PAPER INDUSTRY INCLUDE RECOVERY UNITS, STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; ALSO PRESSURE VESSELS





**an**

## **unbeatable team!**

**In the pulp industry—just as on the football field—it's skill and teamwork that produce the best results.**

**T**HAT'S WHY the whole Brown Company line-up of woodsmen, research and technical service experts, plant workmen, and management have been combining their skills and functioning as a team for more than half a century to produce the very finest

quality pulp from wood cellulose.

If you have a paper problem, however difficult it may be, let the Brown Company team help you solve it. Write today to our Technical Service Division, Dept. PP-11, in Boston, for information.

**BROWN** *Company*



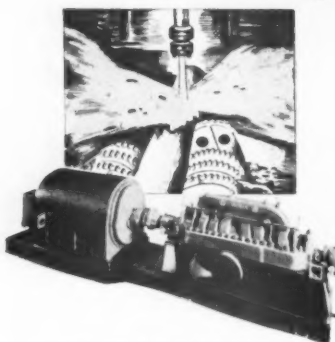
**Berlin, NEW HAMPSHIRE**

**GENERAL SALES OFFICES: 150 CAUSEWAY STREET, BOSTON 14, MASS.**

*Branch Sales Offices: Portland, Me., New York, Chicago, St. Louis, San Francisco, Montreal*

**SOLKA & CELLATE PULPS • SOLKA-FLOC • NIBROC PAPERS • NIBROC TOWELS • NIBROC KOWTOWLS • BERMICO SEWER PIPE, CONDUIT & CORES • ONCO INSOLES • CHEMICALS**

# *No roof needed with the* **ELLIOTT OUTDOOR SPLASHPROOF MOTOR**



An Elliott motor teamed up with a Bingham pump for hydraulic barking.

**SAVE THE COST OF HOUSING** for motor-driven pump units, by using motors that supply their own housing, proof against wind-driven rain, mist, fog, snow, sleet and temperature. Motors you can set up outdoors, wherever is most convenient for the work they have to do.

Elliott "Fabri-Steel" construction permits of motor design ideally suited to the need, providing the rigidity, crack-proof strength, and rugged endurance which combine with other Elliott refinements to produce a motor outstandingly dependable, whether on a hydraulic barking pump drive, a chipper drive, a boiler feed pump drive or any other motor application.

Sizes from 50 hp up, all enclosures, all types. Write for bulletin on the motor you need.

## **ELLIOTT Company**

DEPT. PP

**Ridgway Division  
RIDGWAY, PA.**

L-824

PLANTS AT: JEANNETTE, PA. • RIDGWAY, PA.  
AMPERE, N. J. • SPRINGFIELD, O. • NEWARK, N. J.  
DISTRICT OFFICES IN PRINCIPAL CITIES



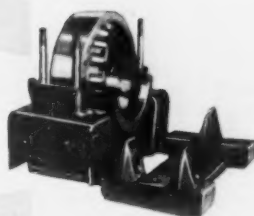
PULP & PAPER

what's  
important  
about

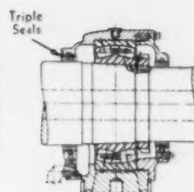


the **FIRST** spherical  
Roller Bearing applied to  
paper machinery?

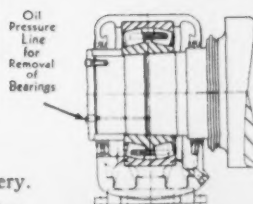
the **FIRST** Rocker mount  
design?



the **FIRST** Triple Seals?



the **FIRST** System for  
Hydraulic Bearing Removal?



Here's what's important about them:

They made possible real operating economies in paper making machinery.

They permitted expansion and contraction of the bearings and driers, eliminated lateral stresses on side frames.

They provided lubricant retention regardless of speed and temperature.

They provided easy, damage-free bearing removal.

Proof? Some of these SKF firsts are becoming standard practice with bearing manufacturers.

FIRSTS are typical of SKF's engineering. Right now, SKF is working with paper machinery designers and builders to anticipate tomorrow's needs.

7296



WHY SKF IS PREFERRED BY ALL INDUSTRY

Integrity • craftsmanship • metallurgy  
tolerance control • surface finish • product uniformity  
engineering service • field service

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.—manufacturers of SKF and HESS-BRIGHT bearings.

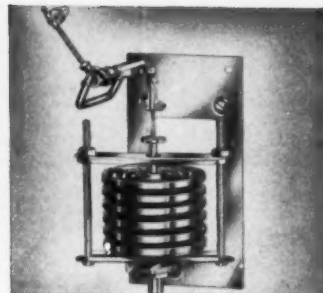
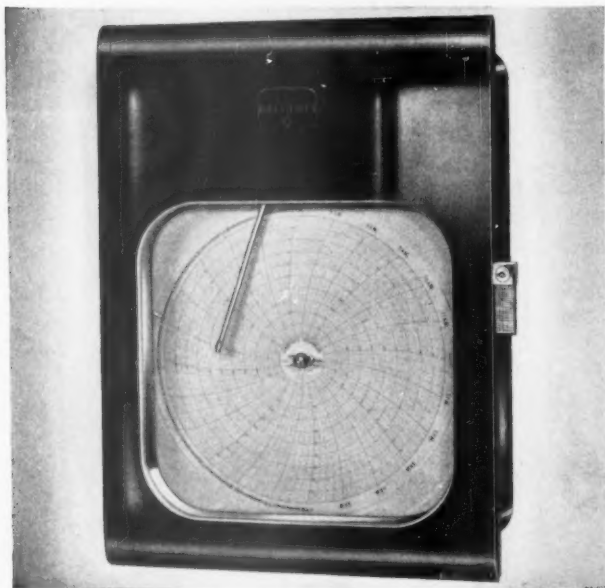
## WHY ARE MORE BRISTOL RECORDING GAUGES BEING USED THAN ALL OTHERS COMBINED?

The heart of the pressure gauge is the pressure measuring element. Hundreds of thousands of Bristol recording gauges in use all over the world, operating under all kinds of conditions, testify to the high accuracy, long life, and permanent calibration of Bristol's element.

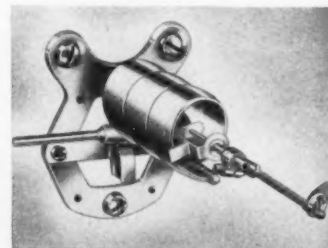
Many Bristol gauges have been in constant service for 20, 30 and 40 years!

Now Bristol presents its *new* line of Series 500 recording pressure gauges in ranges from 0 to 6 millimeters mercury absolute to 0 to 10,000 psi. They have many outstanding new features which make them easier to use, convenient to service, readily convertible. And they incorporate the three most advanced designs of measuring elements.

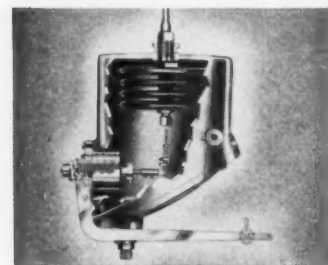
Models are available for recording, automatic controlling, pneumatic transmission and telemetering. Immediate delivery on many ranges. Write for new 32-page Catalog G621. THE BRISTOL COMPANY, 142 Bristol Road, Waterbury 20, Conn.



**FOR LOW PRESSURE RANGES**—new Type E measuring element is used for ranges from 0-2 in. water to 0-29.9 psi pressure or vacuum. Extremely high torque gives positive pen positioning across entire range. Highly accurate, extremely stable. 250% inherent over-range protection.



**FOR INTERMEDIATE AND HIGH RANGES**—new helical measuring element is for ranges from 0-30 psi to 0-10,000 psi. Special non-ferrous alloy—heat-treated to withstand impact of rapid fluctuations—gives permanent accuracy over a long period of service life.



**FOR ABSOLUTE PRESSURE**—new single-bellows type element measures ranges as low as 0-6 mm. mercury absolute and gives direct reading of pressure above absolute zero inherently corrected for barometric variations—with far greater accuracy than ever before.



# BRISTOL



Send for Your  
**FREE Sample**

## UNUSUAL NEW FAST WET-STRENGTH RESIN

**Gives Wet Strength Right Off the Machine**  
**Requires No Special Handling**  
**Adapts to Almost Any Furnish or Product**



Prove it to your own satisfaction. Send today for your free sample of UFORMITE 700 fast wet-strength resin, and test it in your rag, sulfite, kraft or groundwood furnish. UFORMITE gives fast wet strength right off the machine—*without* the need for acid pre-treatment, tedious mixing, aging before use, or special corrosion-resisting equipment. And you'll get all these advantages in the bargain . . .

1. **High efficiency** over a wide range of resin-to-pulp ratios.
2. **Adaptability to almost any furnish**, from unbleached kraft to rag.
3. **Wide flexibility** in point of addition, from wire to beater.
4. **Convenient pH control**, with acid, alum, or mixtures of these.
5. **Not critical** to sulfate ion concentration.
6. **Available** in tank car quantities.

Introduced only recently, UFORMITE 700 has already won acceptance in commercial production of Army map paper, heavy weight bag stock, box board, toweling, glassine and twisting tissue. But thanks to our production and raw-material situation, you can still get UFORMITE in tank-car quantities! Your sample is waiting; where shall we send it?

UFORMITE is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.

CHEMICALS  FOR INDUSTRY

**ROHM & HAAS COMPANY**

**THE RESINOUS PRODUCTS DIVISION**

Washington Square, Philadelphia 5, Pa.

*Representatives in principal foreign countries*

# Tomorrow's pulp and paper depend on TODAY'S trees



IT TOOK A HUNDRED YEARS TO GROW TREES LIKE THIS ▲

BUT IN THREE YEARS THE BUDWORM  
CAN MAKE THEM LOOK LIKE THIS ►



## THE SPRUCE BUDWORM UPSET THE "BALANCE"

Insects, birds, animals, trees . . . usually they and other elements "balance", perpetuating our existence. The budworm destroyed this balance, and there are over 2,267,000 acres of budworm-infested timberland in Washington and Oregon alone.

In 1949 control measures started to re-establish the lost "balance", and if these measures are properly extended we can hope to prevent the destruction of billions of board feet of priceless timber. Pennsalt is glad to ally its chemical facilities with other interests, as well as state and federal authorities, in this fight to conserve our natural resources. Support from every quarter will be helpful, for the battle may be a long one.

### In the West:

Pennsylvania Salt Manufacturing Company of Washington . . . Tacoma, Washington; Portland, Oregon; Berkeley and Los Angeles, California.

### In the East:

Pennsylvania Salt Manufacturing Company, Philadelphia 7, Pa.

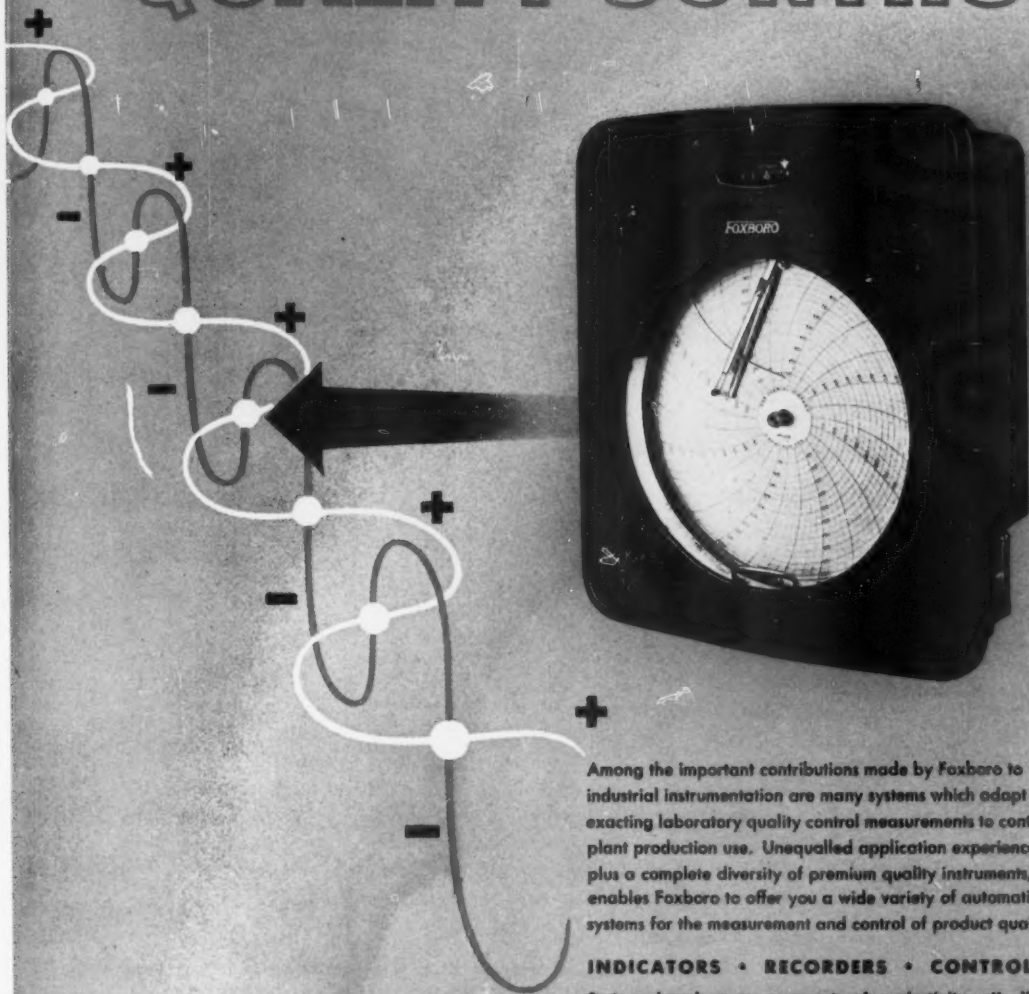
Liquid Chlorine • Caustic Soda • Bleaching Powder • Potassium Chlorate • Sodium Chlorate • Anhydrous Ammonia • Perchloron® • Sodium Arsenite • Sodium Hypochlorite — DDT • Penco forest spray • Weed Killers



*Progressive Chemistry for over a Century*

better instrumentation for

# QUALITY CONTROL



Among the important contributions made by Foxboro to industrial instrumentation are many systems which adapt exacting laboratory quality control measurements to continuous plant production use. Unequalled application experience, plus a complete diversity of premium quality instruments, enables Foxboro to offer you a wide variety of automatic systems for the measurement and control of product quality.

#### INDICATORS • RECORDERS • CONTROLLERS

Systems based on measurements of conductivity, pH, dielectric constant, oxidation-reduction potential, boiling point rise, differential vapor pressure, specific gravity . . .

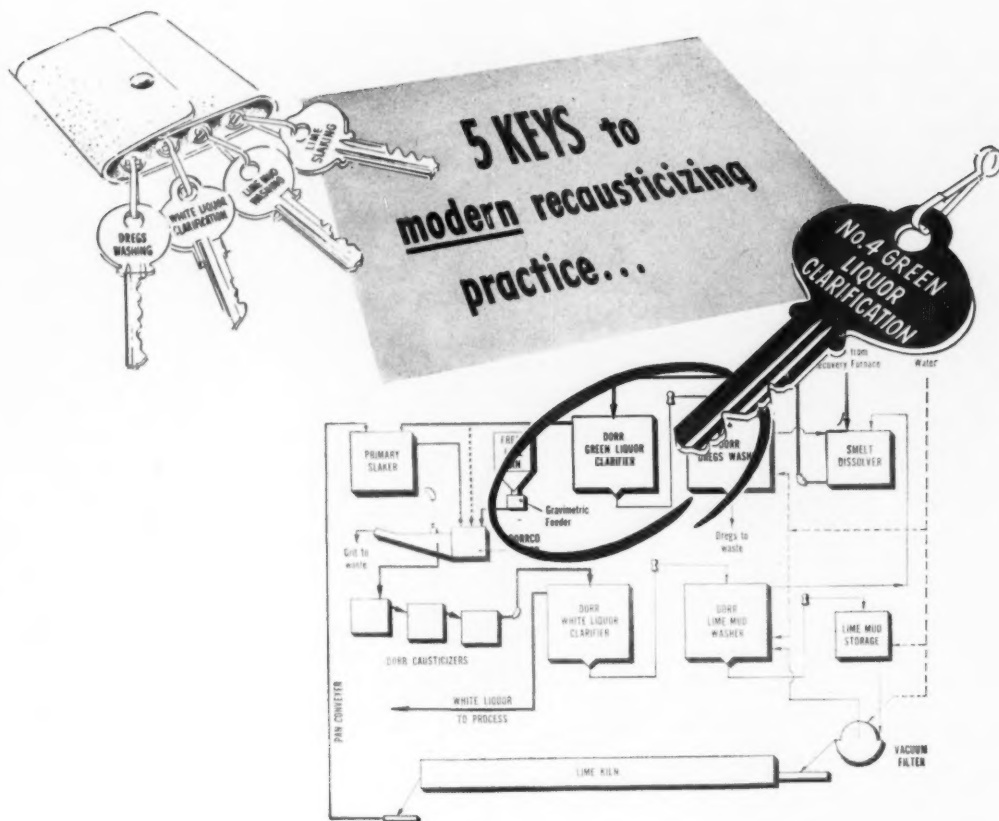
#### TRANSMISSION SYSTEMS • CONTROLLED VALVES

## **FOXBORO**

Reg. U. S. Pat. Off.

For over 40 years, specialists in the measurement and control of temperature, pressure, flow, liquid level, humidity . . .

**THE FOXBORO COMPANY, FOXBORO, MASSACHUSETTS, U.S.A.**



Delivering green liquor of uniform clarity to the Slaker is a must in ideal recausticizing practice. In the Dorr System—the standard of the Alkaline Pulp- ing Industry—the Green Liquor Clarifier combines adequate area and detention with positive, continuous dregs removal by an adjustable-stroke diaphragm pump.

*The net result is . . .*

- No accumulation of iron, aluminum salts or other inert material in the lime circuit.
- Maximum CaO availability of reburned lime is constantly maintained.

Green liquor clarification is only one of the important unit operations in The Dorr System. A new bulletin, #3301, describing the recausticizing operation in detail, will be sent on request. Address inquiries to The Dorr Company, Stamford, Conn.; or in Canada, to The Dorr Company, 80 Richmond Street West, Toronto 1.



WORLD - WIDE RESEARCH • ENGINEERING • EQUIPMENT

THE DORR COMPANY • ENGINEERS • STAMFORD, CONN.

Offices, Associated Companies or Representatives in the principal cities of the world

# They Need Never Wear Out!

## Pacific-Western Speed Reducers



**The owner** of a Pacific-Western speed reducer—whether it's 5, 15, 25, or more years old—can *always* get prompt service on replacement parts. Complete records and prints for *every* reducer are carefully filed for this very purpose.

**Permanence**—year-in, year-out factory responsibility—is one of many extra values you obtain when you specify PACIFIC-WESTERN.

### STOCK-DESIGN REDUCERS

- ★ Single, Double, and Triple Reductions
- ★ Parallel-Shaft Reducers
- ★ Right-Angle Reducers
- ★ Vertical Reducers
- ★ Motorized Reducers
- ★ Cone-Drive Reducers
- ★ Speed Increasers (High-Speed Units)

### NON-STOCK DESIGNS

- ★ Pacific-Western special geared transmissions include types and sizes for every application.

### Use Handy Coupon for Quick Information

**Plants** • 417 Ninth Ave. S., Seattle 4, Wash.  
2600 E. Imperial Highway, Lynwood, Los Angeles County, California  
1035 Folsom St., San Francisco 3, Calif.  
117 N. Palmer St., Houston, Texas

**Representatives** • 930 S.E. Oak St., Portland 14, Oregon  
Room 211, Chamber of Commerce Bldg., Denver, Colorado  
Engineering & Machinery Ltd., 1366 W. Broadway, Vancouver, B. C.

**WESTERN GEAR WORKS**

Manufacturers of PACIFIC-WESTERN Gear Products

**Pacific Gear & Tool Works**

PLANTS: Seattle  
San Francisco  
Lynwood  
(Los Angeles County)  
Houston

Representatives:  
Portland  
Denver  
Vancouver, B. C.

Attach this coupon to your letterhead and mail to your nearest Pacific-Western plant or office.

#### WESTERN GEAR WORKS

Gentlemen: Please send me the information requested by return mail.

- ☐ Send copy of Herringbone Speed Reducer catalog.
- ☐ Send complete information on type of speed reducer listed below:

NAME \_\_\_\_\_

TITLE \_\_\_\_\_



# TITAN Wins in the Woods!



Photographs taken at Harbor Plywood Corporation's logging show near National, Wash.



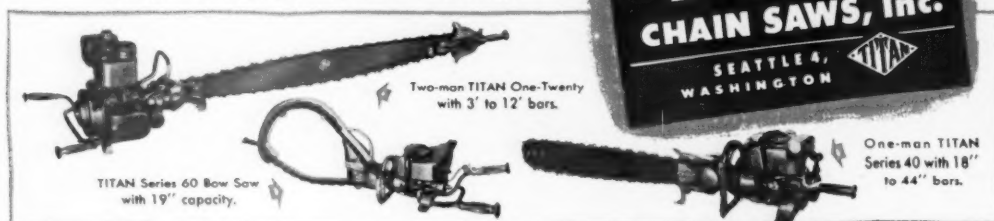
## New Series 60 ADDING FAME TO TITAN NAME

There's just one true test of a power chain saw—how does it perform on the job, under pressure, when there are tough production schedules to be met, day after day. Leading logging operators have long agreed—TITAN is tops on the job. And TITAN'S reputation for tireless performance is growing as more and more loggers use the new TITAN Series 60—the lightweight saw with the power punch. Use the TITAN Series 60 as a one-man or two-man saw. It weighs only 37 pounds complete with 26-inch bar and chain—

delivers power to spare for a 5-foot bar—is available with straight blade bars from 26 to 60 inches or 19-inch capacity bow saw. It's a pleasure to see the TITAN Series 60 tackle any job in the woods—fell trees, buck, limb, cross-cut, rip, square timbers. It's a pleasure to feel how easily this saw handles, how fast and smoothly it operates. Try the new TITAN Series 60 and you'll agree—here's another TITAN that's tops on the job.

*Write for new, free folder describing the complete line of TITAN Bluestreak Chain Saws.*

*Ask your dealer for a TITAN demonstration today.*



# SULPHUR

*\*Interesting Facts Concerning This Basic  
Raw Material from the Gulf Coast Region*


## \*BLASTING


Sulphur is blasted from the face of the vat as it is required for shipment. Vertical holes are drilled from the top of the vat, each hole being charged and exploded. Most of the sulphur is thereby broken into pieces of a size suitable for loading, such large pieces as occur being broken by hand to sizes which can be conveniently handled. Locomotive cranes load the sulphur into railroad gondolas, hopper bottom, or box cars. Such molten sulphur as is shipped is loaded direct from the pipe lines bringing sulphur from the producing wells.



Loading operations at our  
Newgulf, Texas mine



**T**EXAS GULF  **SULPHUR** **CO.**  
75 East 45th St. New York 17, N. Y. **INC.**  
Mines: Newgulf and Moss Bluff, Texas



**War on waste!**

TODAY, conservation of valuable materials from flue gases of black-liquor-fired recovery boilers is *more important* to the kraft paper industry than ever before. That's why Koppers has developed a special *horizontal-flow* electrostatic precipitator for this service.

## Here's why you get more profitable recovery with **Koppers-Elex** electrostatic precipitators!

### HERE'S THE RECORD\*

Cleaning flue gases on a 250-ton recovery boiler, a Koppers-Elex precipitator bettered the *guaranteed recovery efficiency* of 92.5% by an *extra 2.5%*. This highly satisfactory performance was obtained even though the unit was operating under a 15% overload... and was verified by tests made by the customer.

\***Guaranteed:** Koppers-Elex precipitators are guaranteed to equal or better (under tests made by your own personnel) any efficiency or residual content you specify.



**G**UARANTEED recovery at any efficiency you specify! That's one big reason why more and more kraft mill operators specify Koppers-Elex electrostatic precipitators for profitable recovery of valuable sodium sulfate and sodium carbonate from black liquor processes.

Another big reason is *minimum outage time!* Expensive bypass systems with loss of materials during inspection and maintenance are *eliminated* by Koppers double chamber design. Maximum recovery is assured because successive collection zones are separately energized and continuous dust removal is provided by a drag scraper which operates on a dry, easy-to-reach *flat* bottom. This is an important feature where chemicals are re-used!

Hundreds of Elex precipitators are in use today all over the world. *Koppers-Elex* electrostatic precipitators are designed, engineered, fabricated and erected *under one contract* by the Koppers Company... and each installation comes complete with "packaged" mechanical or vacuum tube power packs. If you have a gas-cleaning problem, write today to: Koppers Company, Inc., Precipitator Dept., 341 Scott St., Baltimore 3, Maryland.

***Koppers-Elex*** ELECTROSTATIC PRECIPITATORS



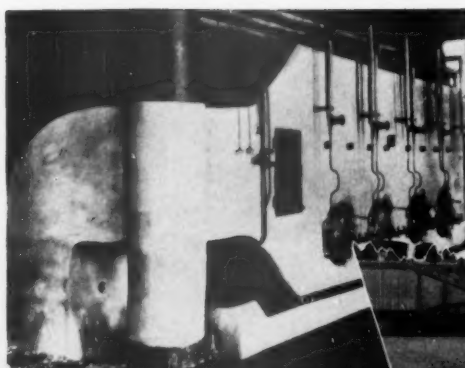
## FOREST RESERVES

Puget Sound owns or controls extensive timberlands in the Pacific Northwest, and its operations extend from the felling of the trees to the final delivery of finished pulp. Every log is completely utilized; modern hydraulic barkers and chippers result in reducing waste in wood utilization by 20%, and wastes are fully utilized in the alcohol and by-products plants.

# PUGET SOUND

**PULP AND TIMBER COMPANY**

BELLINGHAM • WASHINGTON



Preheated air ducts and burner windbox on VUX boiler insulated with Fiberglas MM Blanket Insulation.



Pipe pressure reducing station insulated with Fiberglas PF Pipe Insulation.



Ducts over Flokt dryer insulated with Fiberglas PF insulation covered with canvas.

Installation: NANIAMO PAPER MILL  
Naniamo, B.C., Canada



## REDUCE THOSE OPERATING COSTS

... High Thermal Efficiency  
... Moisture Resistant

- Incombustible • Non-corrosive
- Won't rot or decay • Lightweight
- Low moisture pickup • Easy to apply

With thermal conductances as low as 0.24 at 75° F., Fiberglas insulations are available in a wide variety of forms to meet the full temperature ranges of the pulp and paper industry.

For local sources of these materials and complete information, phone the Fiberglas branch office nearest you, OR write to OWENS-CORNING FIBERGLAS CORPORATION, BOX 112-K, Santa Clara, California.

*Pacific Coast  
Division of*

OWENS-CORNING  
**FIBERGLAS**

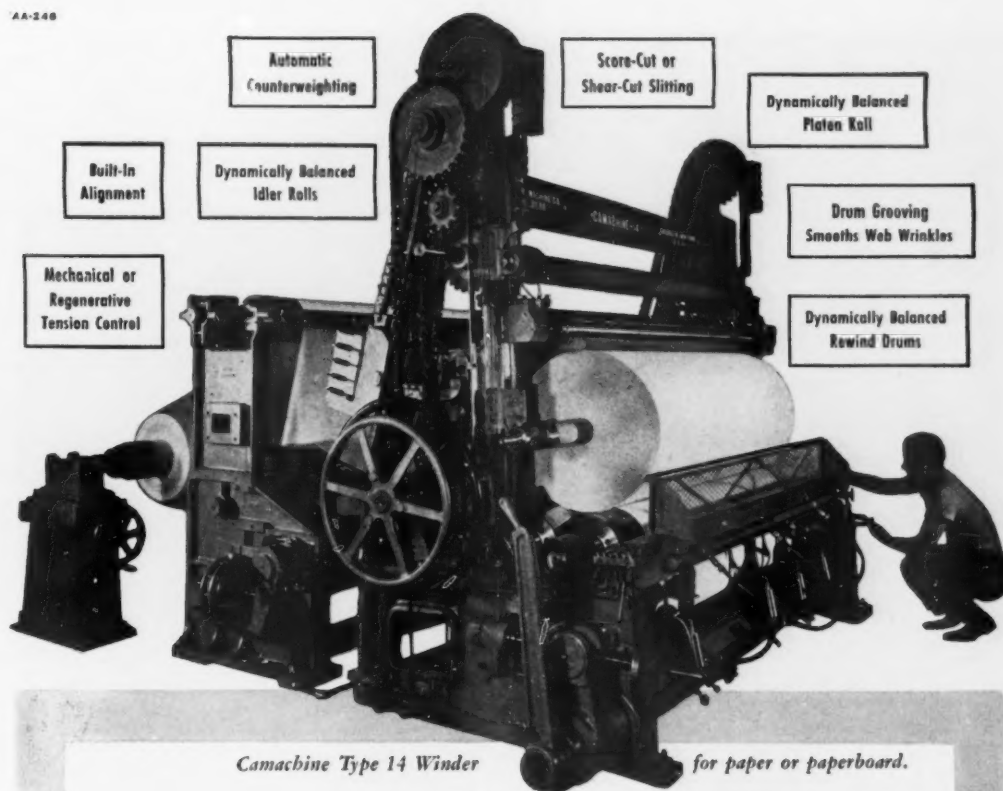
SANTA CLARA, CALIF.

*Save  
time...money*  
WITH  
**FIBERGLAS**



\* Fiberglas is the trade-mark (Reg. U.S. Pat. Off.) of the Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.





Camachine Type 14 Winder

for paper or paperboard.

## Why do so many more mills depend on *Camachines*?

One practical reason is that Cameron Machine Company provides a choice between *four* great, job-proved mill-type Camachines... each designed to meet a specific range of speed and capacity requirements ... each backed by Cameron's half century of *specialized* experience.

**CAMACHINE TYPE 20.** Dynamically balanced to the maximum speed of 5000 fpm. Trim widths from 180" to 310". Built to your choice of 42", 60", or 72" maximum rewind diameter.

**CAMACHINE TYPE 19.** Dynamically balanced to the maximum speed of 3500 fpm. Trim widths from 117" to 192". Built to your choice of 42", 60", or 72" maximum rewind diameter.

**CAMACHINE TYPE 18.** Dynamically balanced to the maximum speed of 2500 fpm. Trim widths from 73" to 150". Built to your choice of 42", 60", or 72" maximum rewind diameter.

**CAMACHINE TYPE 14.** Dynamically balanced to the maximum speed of 1800 fpm. Trim widths from 53" to 92". Built to your choice of 38", 50", or 60" maximum rewind diameter.

Write for complete information • CAMERON MACHINE COMPANY • 61 POPLAR STREET • BROOKLYN 2, N. Y.

**CAMACHINE — the one outstanding name in roll production equipment**

PACIFIC COAST SUPPLY COMPANY • PUBLIC SERVICE BUILDING, PORTLAND 4, ORE. • 260 CALIFORNIA ST., SAN FRANCISCO 19, CAL.



Warren Fan Pump with variable speed drive and piping from Couch Pit to Screens, including PH control piping at left.

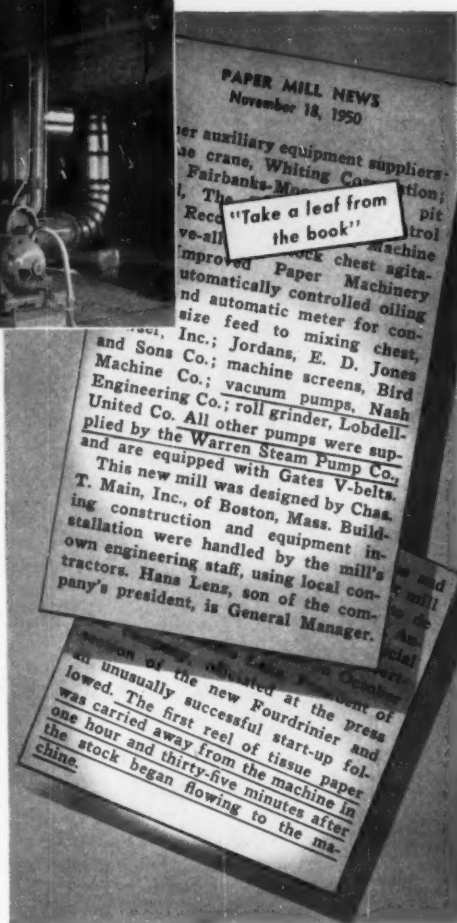
## South of the Border— San Angel Mill in Mexico Standardizes on **WARREN PUMPS**

The new paper mill and groundwood mill of Fabricas de Papel Loreto y Pena Pobre, San Angel, D. F., Mexico is now in full production, and is considered one of the most modern and efficient operations of its kind south of the border.

As stated in the news item shown, practically all the pumps in these mills are Warren, and include such items as:

Blow Tank Pump  
Black Liquor to Washers  
Fan Pump  
Bull Screen Pump  
White Water Pump  
Beater Supply Pump  
Hydropulper Pump  
Machine Chest Pump  
Felt Shower Pump  
Seal Box White Water Pump  
Clear Water Shower Pump  
Circulating Pump for Log Pond

Black Liquor Booster Pump  
Weak Liquor to Washers  
Rosin Size Pump  
Groundwood Supply Pump  
Grinder Pressure Pump  
Chemical Pulp Refiner Pump  
Broke Beater Pump  
Sweetening Pump  
Dirtec Pump  
Fresh Water Supply Pump  
Couch Pit Pump  
White Water Booster



Other foreign fields in which Warren Paper Mill Pumps are on the job include India, Italy, Finland, Puerto Rico and Portugal.

*At home or abroad, it pays to specify:*

# WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS

*For  
all applications  
where doctors are needed*



LODDING ENGINEERING CORPORATION

WORCESTER, MASSACHUSETTS

REPRESENTED BY

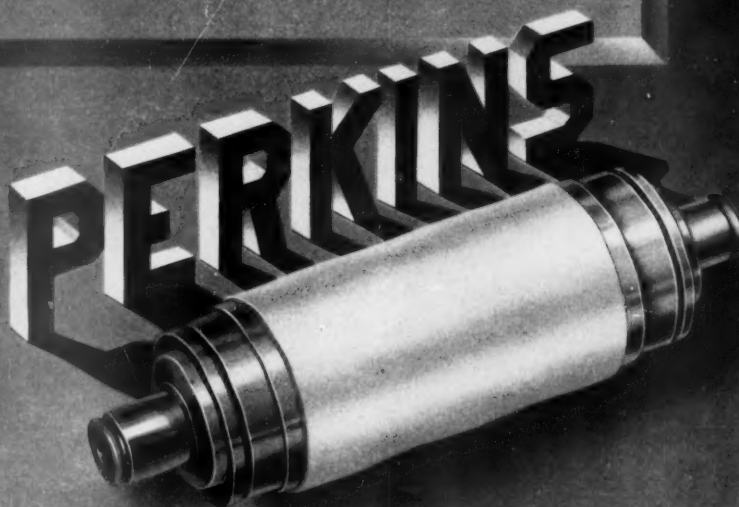
W. E. GREENE CORPORATION • WOOLWORTH BLDG., NEW YORK



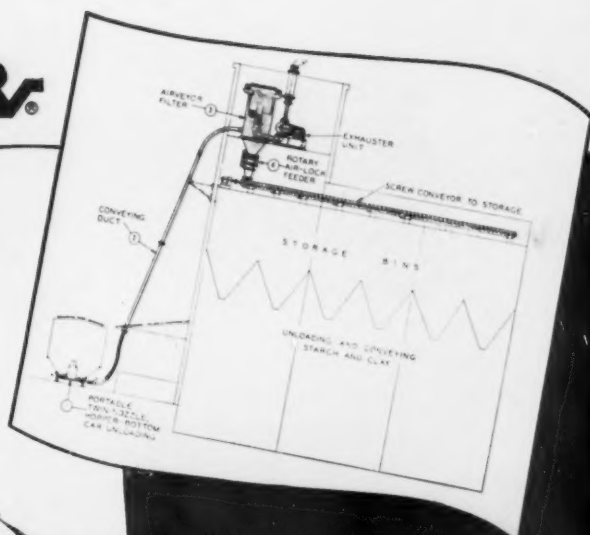
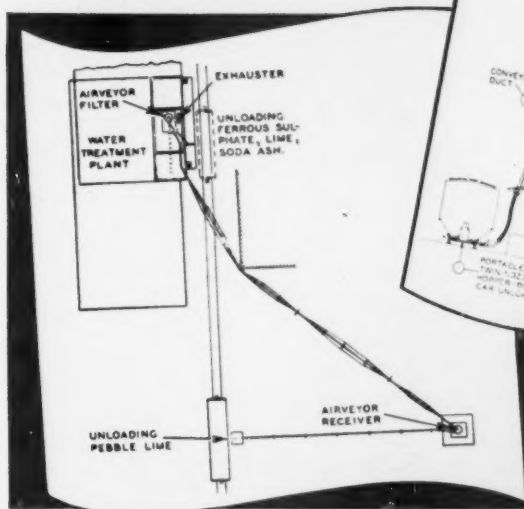
## *For the* **PAPER INDUSTRY**



Cotton Rolls	Friction Calenders
Interleaved Rolls	Embossing Calenders
Paper Rolls	Laboratory Calenders
Embossing Rolls	Ventilating Fans
Chilled Iron Rolls	Rag Cutters
Granite Press Rolls	Paper Dampeners
Glassine Supercalenders	Tensile Testers
Web Supercalenders	Mullen Testers
	Hydraulic Power Units



# THE AIRVEYOR®



**Pre-planning means  
a more efficient installation**

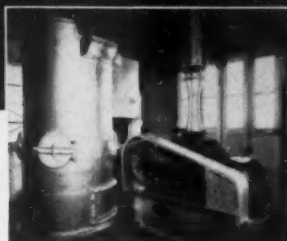
**... always *START FROM SCRATCH***

When you handle dry pulverized and granular materials, the sensible, economical, and most satisfactory plan of selecting a pneumatic conveying system is to "Start from scratch" ... make your selection while the plant is still in the planning stage. Pneumatic conveyors permit economy and convenience in location of buildings and production equipment without the restrictions or straight-line limitations of mechanical conveyors.

Fuller Engineers have years of experience in their field. They'll survey your plans, make a close study of local conditions and the materials to be handled. Then—they'll make their recommendation from one of the four Fuller time- and service-proved systems, at no obligation to you.

And—because each installation has peculiar requirements of its own—their recommendation will be the right one for the job—the system that will handle your materials in the most efficient and economical way. Shown here is the Airveyor, used successfully for unloading dry pulverized, crushed, granular materials from shipping units, and for conveying to and from storage. It is economical, safe, thoroughly dependable.

Fuller has specialized in pneumatic conveying systems and knows from experience that the most successful, the most economical, and the most trouble-free installations are engineered and built along with the plant, with individual requirements in mind. Call on Fuller when planning a new plant or modernizing an old one; you'll be sure of a conveying system that meets your requirements in every detail.



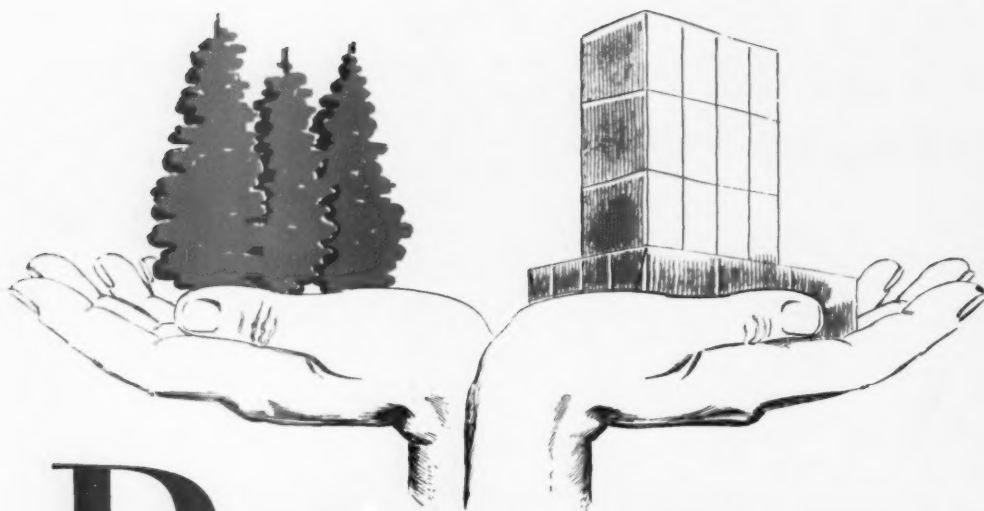
**FULLER COMPANY, Catasauque, Pa.**  
Chicago 3—120 So. LaSalle St.  
San Francisco 4—420 Chancery Bldg.

# Fuller

**DRY MATERIAL CONVEYING SYSTEMS AND COOLERS —  
COMPRESSORS AND VACUUM PUMPS —  
FEEDERS, AND ASSOCIATED EQUIPMENT**

A-129





# Balancing

**TIMBER RESOURCES WITH PRODUCTION  
REQUIREMENTS RESULTS IN A  
PERMANENT FOREST INDUSTRY**

ONE OF the primary factors in the sustained production of forest products is the balancing of timber supply and plant production requirements. On the face of it, a simple enough statement; but in actual practice a highly integrated operation coordinating harvesting operations both in time and quantity with the production requirements of lumber, pulp, plywood and other types of plants and mills.

*The Weyerhaeuser forestry policy is now being projected for the next 100 years. Tree farming, inaugurated in the United States by Weyerhaeuser in 1941, protects the timber from fire, bugs, and disease. Planned harvesting, including pre-logging, clean logging and re-logging, then directs and increases the utilization of the trees grown.*

This farsighted forestry policy insures a continuing supply of pulpwood for the Weyerhaeuser sulphite and sulphate pulp mills.



**WEYERHAEUSER**

dyestuffs and pigments



for tissues and twistings

You can depend on GENERAL, whatever your color need — for the whites and pastels that sell sanitary tissues, paper towels and table napkins; for the pleasant, attention-getting wrappings; for the deep and bright twistings that 'make' multicolored plaid seat covers and rugs. We have the correct dyestuff for every conceivable use.

If color is involved our technical field staff is at your disposal, our laboratory staff ready to give the speediest service.



GENERAL DYESTUFF CORPORATION  
435 HUDSON STREET • NEW YORK 14, NEW YORK  
BOSTON • CHARLOTTE • CHICAGO • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO



# 70 Sumner Chippers

ARE NOW IN OPERATION\* IN

## PULP, PAPER AND BOARD MILLS

IN AMERICA AND ABROAD!

**LEADING** pulp, paper and board mills the world over—and particularly on the Pacific Coast—have come to recognize SUMNER Chippers as a profitable part of their operations. This is graphically shown on the accompanying map.

The locations listed represent seventy SUMNER Chippers of all sizes, ranging from the 36" disc-diameter Re-Chipper to the world's largest—the SUMNER 175" disc-diameter Chipper.

In addition, our associate, the Canadian Sumner Iron Works of Vancouver, B. C., has manufactured and installed 30 Chippers in disc-diameter sizes of from 53" to 114".

Why not send for further information on all SUMNER equipment—now?

\*Or are shortly to be installed.

Designers and  
Builders of  
Pulp and Paper  
Mill, Sawmill,  
Boardmill and  
Shingle Mill  
Equipment

ESTABLISHED 1892

# SUMNER IRON WORKS

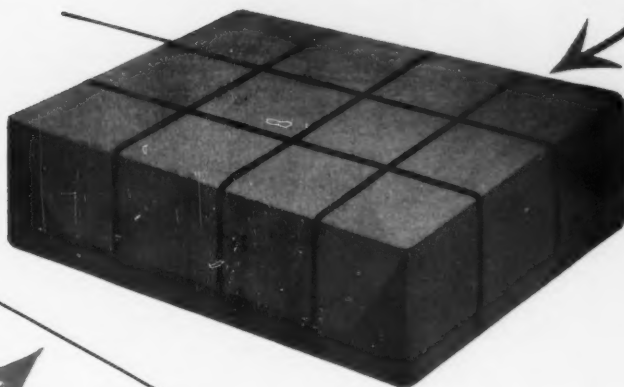
EVERETT, WASHINGTON

## Lyddon & Co.

exporters of wood pulp  
to all world markets

## Parsons & Whittemore

paper exporters  
wood pulp

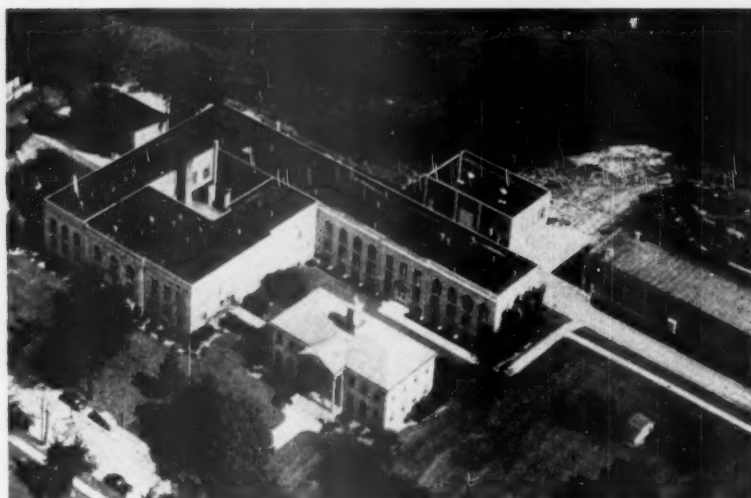


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10 East 40th Street, New York 16, N. Y.

# WORLD SYMPOSIUM

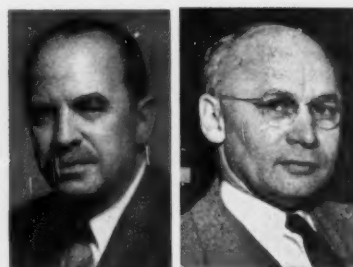
## ALSO A REPORT ON INSTITUTE GRADS



HERE IS WHERE THE MEETINGS WERE HELD. Air view of the Institute of Paper Chemistry in Appleton, Wisconsin.

During September there was possibly the most distinguished gathering ever assembled of outstanding scientists of the cellulose world at The Institute of Paper Chemistry in Appleton, Wis.

Names to conjure with in this industry—names that are almost legendary to many a mill chemist or student—were (and we say this without any disrespect intended) "a dime a dozen" around the halls of Law-



KEY OFFICIALS at the Institute of Paper Chemistry who welcomed outstanding foreign scientists were WESTBROOK STEELE (left) President, and Dr. HARRY F. LEWIS (right), Dean and Research Associate.

rence College, the attractive tree-lined streets of the paper town of Appleton, the lobby of the Conway, etc.

Just to name a few—Borje Steenberg, world authority on fibers, who spoke at TAPPI meetings also in Bellingham, Wash., and Appleton. Adler, the Erdtmans, man and wife, Hagglund—all from Sweden; Campbell and Davidson from Britain; Cohen from Australia; Umberto Pomilio, who invented the straw pulping process from Argentina noted Italians, Germans

AMONG OUTSTANDING PERSONALITIES IN THE CELLULOSE WORLD who gathered in Appleton in September were (l to r): J. ALFRED HALL, Dir., Forest Products Laboratory, Madison, Wis.; HERMAN MARK, Polytechnic Institute of Brooklyn; DR. G. AULIN-ERDTMAN, Swedish Forest Products Research Lab.; O. BRYDE, Vestfos Cellulosefabrik, Vestfossen, Norway; PROF. HOLGER ERDTMAN, Royal Institute of Technology, Stockholm, Sweden; Dr. W. G. CAMPBELL, Forest Products Research Laboratory, Aylesbury, Bucks, England; HAROLD MURDOCK, Consultant, Atlanta, Georgia; EDUARD FARBER, Timber Engineering Company, Washington, D.C.; H. F. LEWIS, Institute of Paper Chemistry, Appleton, Wis.; BORJE STEENBERG, Swedish Forest Products Research Laboratory, Stockholm, Sweden.







OTHER NOTABLES at Appleton were (l to r): A. K. ESTERER, Weyerhaeuser Timber Company, Longview, Washington; PROF. DR. W. LAUTSCH, Freie Universität Berlin, Berlin-Dahlem, Germany; STANLEY W. TROSSET, JR., Gardner Board and Carton Co., Middletown, Ohio; PROF. DR. FRITZ KARL MICHEEL, Instituts d. Universität Munster, (Westf.), Germany; DR. T. ENKVIST, University of Helsinki, Helsinki, Finland; LEO MULLIGAN, General Electric Company, Pittsfield, Mass.; JOHN PECKHAM, Institute staff; HEINZ HAAS, Zellstoffabrik, Waldhof, Germany; HEINZ CORTE, Zellstoffabrik, Waldhof, Germany; J. R. ISTAS, Laboratoire de Recherches Chimiques, Tervuren, Belgium.

## INSTITUTE GRADS AND WHERE THEY WENT THIS YEAR

and others were on the list.

On this page are photographs taken especially for PULP & PAPER magazine of some of the visitors and participants in what was billed as an International Pulp & Paper Symposium. Many of them attended a similar earlier meeting in Montreal, Canada.

We have brought our readers these pictures because this may possibly be the first and last gathering of such big names in cellulose—or at least the last for a long, long time.

### Howell At Maine



CHARLES M. HOWELL, (in picture) Millville, N. J., former general manager of the Scott Paper Co., Chester, Pa., will be lecturer in paper technology in the department of chemical engineering at the University of Maine, says Dr. Arthur A.

Hauck, president.

Mr. Howell was graduated from Swarthmore in 1919 attended Cornell and Maine, obtaining his M. S. from the latter in 1922.

He joined Scott in 1921 and after several years was the first man to assume responsibility of technical control for the entire company. In 1929 he was made chief engineer in charge of technical control, research engineering, and design and development. In 1931, engineering manager, and became a member of the board in 1934, and a year later general plant manager.

An advertisement in PULP & PAPER is ALWAYS WORKING—in every state and every region where pulp and paper is made in North America and in 40 countries around the world!

For the first time in any journal, PULP & PAPER brings its readers a list of this year's graduates at the Institute of Paper Chemistry and the mills where they have gone to work:

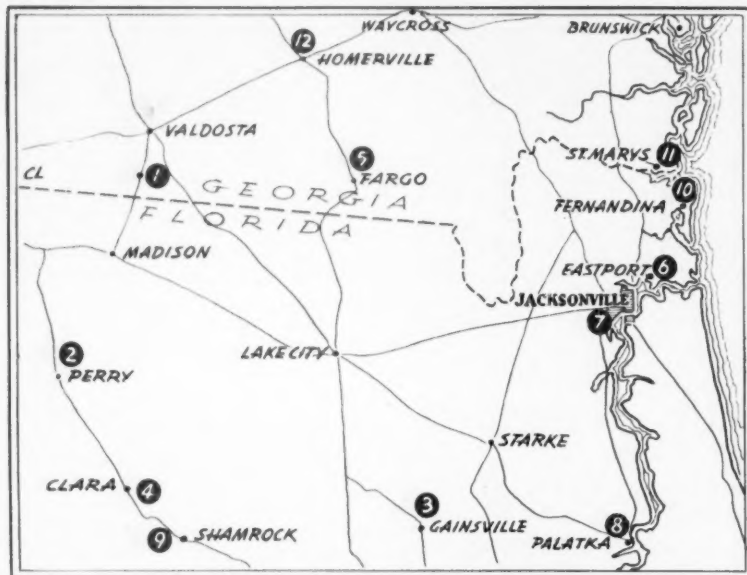
### Institute men receiving Ph. D. in June, 1951

Student	Home Town	Undergraduate School — Position
Brown, Richard W.	Downingtown, Pa.	B.S., Haverford College, 1942—Hammermill Paper Co., Erie, Pa.
Fisher, Henry D.	Denver, Colorado	B.A., Oberlin College, 1943—Falls Power & Paper Co., Oconto Falls, Wis. (Now a Scott mill)
Hess, Cecil L.	Denton, Montana	B.S., Montana State College, 1944—Minnesota & Ontario Paper Co., International Falls, Minn. (Presently in the Navy)
Higgins, James J.	Massillon, Ohio	B.Ch.E., Ohio State University, 1942—The Ohio Boxboard Co., Rittman, Ohio
Ingmanson, William L.	Braintree, Mass.	B.S., Tufts College, 1947—The Institute of Paper Chemistry
Martin, Darrell M.	Milwaukee, Wis.	B.Ch.E., Marquette U., 1944—Cornell Wood Products Co., Milwaukee, Wis.
Pearl, Wesley L.	Seattle, Wash.	B.S.Ch.E., U. of Washington, 1942—Longview Fibre Co., Longview, Wash.
Roberts, Richard	Milwaukee, Wis.	B.S., Marquette U., 1943—International Paper Co., Southern Kraft Division, Mobile, Ala.
Trout, Paul E.	Miles, City, Montana	B.S., Montana State College, 1943—American Boxboard Co., American Pulp & Paper Div., Filer City, Mich.
Verseput, H. Ward	Grand Rapids, Mich.	B.Eng., Yale University, 1943—Robert Gair Co., Inc., Uncasville, Conn.
Ward, John E.	Milwaukee, Wis.	B.A., Wabash College, 1943—P. H. Glatfelter Co., Spring Grove, Pa.

### Institute men completing their Ph.D. work since Commencement and now on the job:

Student	Home Town	Undergraduate School — Position
Leech, John G.	Norwood, Pa.	B.S.Ch.E., Pennsylvania State College, 1947—West Virginia Pulp & Paper Co., Luke, Md.
May, Malcolm N.	Houston, Texas	B.S.Ch.E., The Rice Institute, 1947—The Champion Paper and Fibre Co., Houston Division, Pasadena, Texas
Wethern, James D.	Everett, Wash.	B.S.Ch.E., U. of Wisconsin, 1947—Crown Zellerbach Corporation, Camas, Wash.

# SOUTH EXPANSION NEVER HAS IT SEEN SUCH DAYS



## NEW PLACES IN SOUTHERN NEWS

1. Site of National Container Corp.'s new mill at Clyattville, Ga. 2. Site of new dissolving pulp mill of Buckeye Cellulose Corp., subsidiary of Proctor & Gamble, at Perry, Fla. 3. General location of 60,000 acres of forest land just added to National Container Corp.'s holdings; in counties surrounding Gainesville, Fla. 4. Location of 135,000 acres of forest land acquired or option acquired by Buckeye Cellulose Corp. for its projected mill at Perry, Fla. 5. Location at Fargo, Ga., of Superior Pine Products 208,000 acres of outstanding forest land controlled by St. Regis Paper Co. to supply its new Jacksonville, Fla., mill. 6. Location at Eastport, Fla., of new St. Regis Paper Co. kraft pulp mill. 7. At Jacksonville, Fla., present National Container mill. 8. At Palatka, the Hudson Pulp & Paper Co. mill now being doubled. 9. At Shamrock, Fla., the 233,000 acres of forest land recently acquired by Hudson Pulp & Paper Co. to bulwark its pulpwood supply. 10. At Fernandina, Fla., Rayonier is holding an expansion certificate but is reported as "looking around" at other sites. Container Corp.'s mill is here also. 11. Across the river from Fernandina, at St. Marys, Ga., is St. Marys Kraft Co. 12. At Homerville, Ga., International Paper Co. has a substantial land acreage.

At least 12 additional paper machines and four important pulp drying machines are planned, are on order or have just come into production in the Southern States east of the Mississippi.

This may not be all, as it is known that a few more applications are in the hands of the government in Washington.

And this does not count several machines started up from the last years of World War II up to a year ago.

The expansion plans in the Southeast have been the prime subject of discussion at meetings of Superintendents in Jacksonville and of TAPPI groups in Richmond and Savannah in the fall weeks.

It is a situation probably without precedent in the industry for many years or in any region. The question on many lips is—where is the wood coming from? What will be the result of intensified competition for wood?

Not included in the above total is the NPA application from Bowater's of London for a newsprint mill to be built east of Natchez, Miss. The company no doubt has the dollars from newsprint and pulp

sales in America and we reported last month that ECA denied any of its funds would be used. Existing Southern firms spokesmen assert some eight mills will be competing with Bowater's for wood if this mill is built. But on high authority, it is learned this is not the only Southern territory application for another newsprint mill in the South.

National Container, with William T. Webster in charge of expansion, was to break ground 9 miles south of Valdosta, Ga., for a 500 ton mill with a 240 in. machine, running a potential 2,000 f.p.m., and in the distant future this might be a 1,000 ton mill.

About Jan. 1, St. Regis at Pensacola will start up its 230 in. Bagley & Sewall machine making bag paper stock. And over at Jacksonville, on a point jutting into the St. John River, foundations are in and other work progressing for another St. Regis mill. A short distance south, at Palatka, a new Pusey & Jones machine for high speed lightweight kraft will start up in about December or later, doubling the output of that Hudson Pulp & Paper

mill, a new mill itself. At Moss Point, Miss., International is also doubling its capacity there with a big Beloit machine, primarily for milk carton. And Hollingsworth & Whitney has doubled its output at Mobile with a new Rice, Barton machine just under way.

Mead Corp., its Macon, Ga., still spanking new, is going ahead with plans for another big new mill at Rome, Ga. St. Joe Paper in Florida has ordered a 230 in. Pusey & Jones machine and extensive Sutherland washing and refining equipment. Union Bag for Savannah has ordered its No. 6 Pusey & Jones, to be 236 in. and make that mill one of the largest, if not largest, in the world. Then there is the rebuilt machine for Austell, Ga.; the Bagley & Sewall 270 in. machine for Continental Can to be delivered at Hopewell, Va., in a year and a half, and the off-again, on-again Mengell mill for Jessup, Ga.

That's just paper machines—and not counting possible newsprint expansion. And what of pulp? Well, the high quality kraft pulp mill of Riegel Corp., with its big Ross dryer is to come into production about December—250 tons. Proctor & Gamble is pushing ahead with dissolving wood pulp at Perry, Florida, where it acquired Brooks-Scanlon timberlands. International has gone ahead with its second dissolving pulp mill at Natchez, Miss., within two years, and Rayonier's mill application for expansion has been published but was still in formative state.

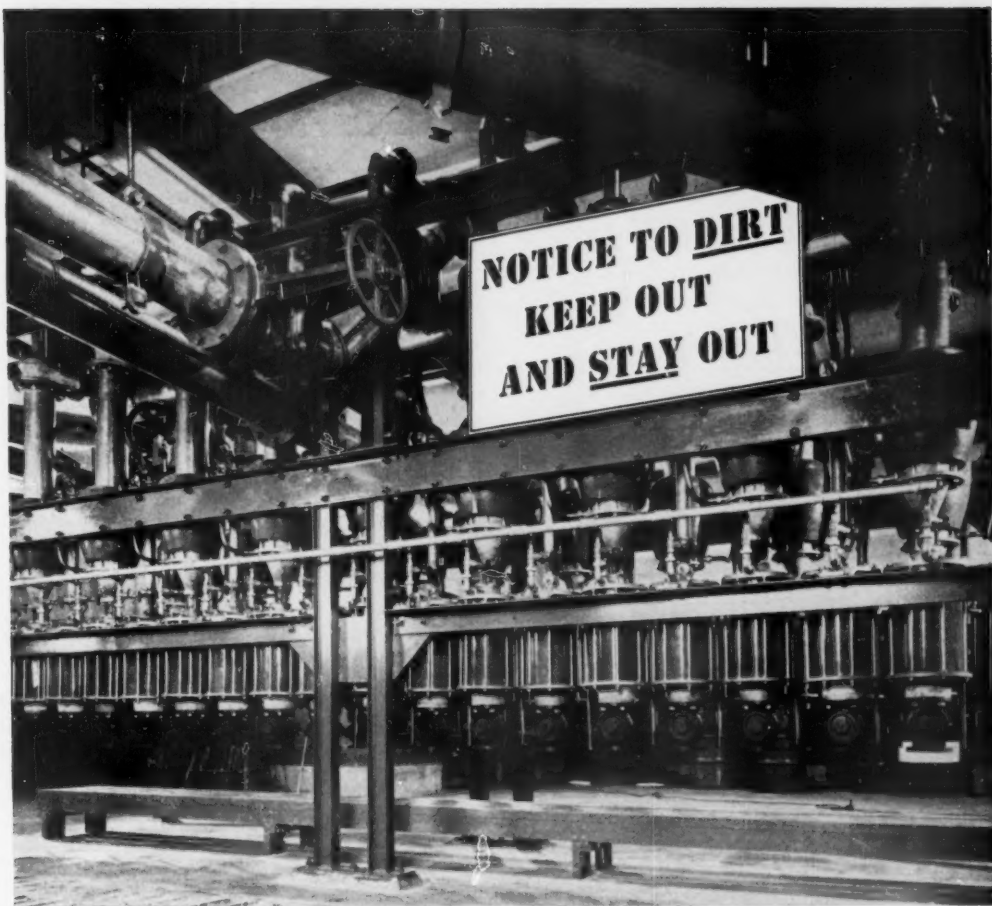
The first Hudson machine, the Macon Mill, the first Natchez machine, the Camp machine, the two Coosa River machines and St. Mary's new dryer—besides all those listed above—are still recent enough to be called new.

The heyday of Southern expansion a generation ago, or expansion anywhere in the broad continent, never saw such days as the Southeast is living through right now. And it should be noted that none of the expansion in the South west of the Mississippi, carried out and planned, has been discussed . . . that is, the new machine ordered now for Brown Paper Mills, the expansion at Champion in Houston and at other mills.

The biggest mills in the South—two or three are already consuming 2,300 to 2,500 cords a day. Several others are around the 2,000 mark. Some 11-year-old wood and good wood, too, has been cut for one Southern mill, but that is exceptional. All this expansion is primarily for national defense, under NPA's stipulations, but the effect it will have on wood drain and growth is a subject attracting a lot of attention.

### Chemstrand at Pensacola

St. Regis Paper Co. was instrumental in bringing the new \$50,000,000 Chemstrand Corp., plant to Pensacola, Fla., where 2,000 acres devoted to growing pine trees on the east bank of the Escambia river were sold to the new enterprise for a site. Chemstrand Corp. was formed jointly by American Viscose Corp. and Monsanto Chemical Company to produce nylon yarn. The process does not utilize wood pulp.



**DIRTECS** provide the most effective barrier to the dirt that's so prevalent in paper stock today. You can see the dirt it collects, and remove it quickly and completely. It cannot get back into the system.

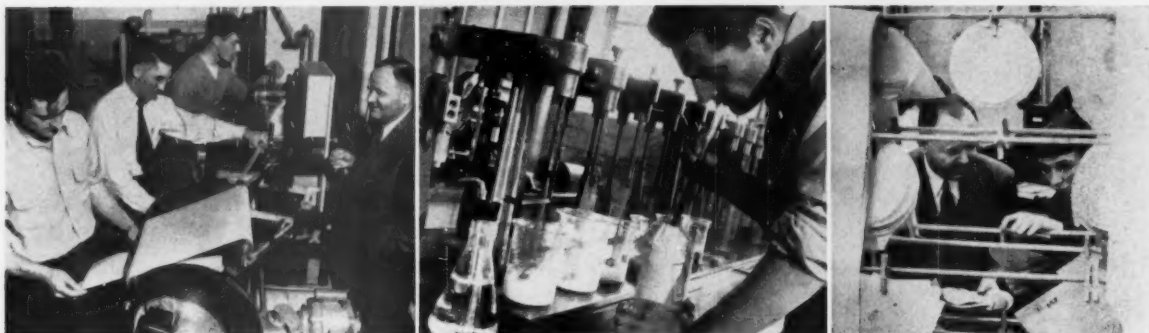
**DIRTECS** also guard your machine wires against those sharp, gritty particles that wear them out before their time.

To maintain maximum output of dirt-free paper, you need **DIRTECS**.

**BIRD MACHINE COMPANY**  
SOUTH WALPOLE • MASSACHUSETTS

# KALAMAZOO PAPER SCHOOL

## HOW IT HAS GROWN IN JUST THREE YEARS



SCENES AT PULP AND PAPER school in Western Michigan College at Kalamazoo, Mich. Left: DR. ALFRED H. NADELMAN, head of pulp and paper curriculum, watches as three of his students operate lab sheet maker, hand press and dryer in order, back to foreground. Center: H. B. HERMAN, student from Seymour Paper Mills, Seymour, Conn., is color matching for paper color. Right: Under Dr. Nadelman's supervision, PAT LANG from East Detroit, clips samples to rack for humidity test.

In the Wolverine State, a visit to the now three-year old paper school at the Western Michigan College on the southwest outskirts of Kalamazoo is a "must" for anyone who wants to see an example of how this industry is building for the future.

A live-wire combination of leaders of the Michigan paper mills and allied industries has been the backbone of this school (in the pedagogical lingo it does not actually have the rank as yet of a "school" but is merely a "curriculum and laboratories" but for the purposes of this article, we won't quibble over these terms). The industry owes a lot to these Michiganders for what they have achieved and it is high time that the industry in the rest of the country recognized what has been accomplished.

Some of them do—at least, their young men do—for students are coming to Kalamazoo from all over—from Italy, Austria, from the West Coast. The son of a technical director of one of Wisconsin's big companies, the nephew of a Weyerhaeuser sales executive—and these are just a few who have chosen this school.

From only six students in the fall of '48, to 20 in '49, to 48 last year, to at least 56 this year (when this article was written; maybe a few more now). And the equipment in the laboratories in the lower rooms of the new handsome brick McCracken Hall, its home, are the envy of many other departments in the college. More than 100 donors—paper mills, supply companies, individuals have made possible the excellent collection of lab equipment and facilities, as indicated in these pictures. Not only paper companies, but firms like American Cyanamid, Anheuser Busch, Asten-Hill, Bagley & Sewall, Beloit, Bird, Black-Clawson, Bulkley Dunton, Becco, Cameron, Dow, Edgar Bros., Gould Pumps, Gottesman, Herman, Hercules, Holyoke Wire, Hooker, E. D. Jones, Johnson Corp., Samuel

Langston, Link-Belt, Nalco, Noble & Wood, B. F. Perkins, Pusey & Jones, Reichold, Rice-Barton, Stowe-Woodward, Wyandotte, Weyerhaeuser, Williams-Gray, etc.

### Nadelman Heads Effort

But we have left to last the mention of one individual who has made many friends and earned an ever-deepening respect for the job he is doing in his officially-titled role—"head of pulp and paper curriculum." He is Dr. Alfred H. Nadelman, who mixes a nimble wit with

learning and a very human fondness for his fellowmen with a passion for teaching. There is no doubt he gave up other rewards when he accepted the challenge at Kalamazoo by giving up his position as technical superintendent of the International Paper Co., Niagara Falls, N.Y.

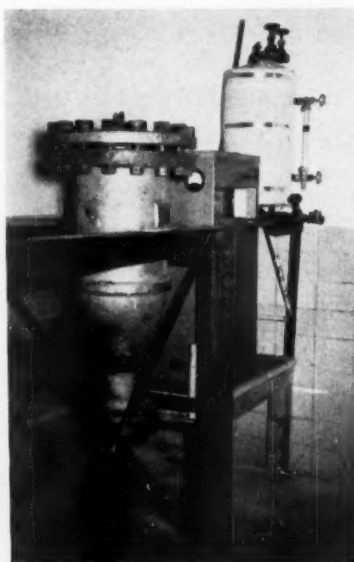
It is his dream that some day this Michigan school will be comparable to the Institute of Paper Chemistry at Lawrence College in Wisconsin. It may be a long way, but now it is comparable to the curriculum offered at Maine, McGill, Syracuse, Lowell Textile, U. of Washington, Oregon State. Actually, for paper-making it goes beyond some of these. One of Dr. Nadelman's wise policies is to encourage his students to broaden themselves and prepare for management roles in mills by taking part in general student activities. Many of them do.

This school year Dr. Nadelman himself will handle courses in orientation, pulp manufacturing, wood chemistry and thesis work in two sections. Industry men will cooperate with him in teaching auxiliary equipment and converting.

Paul Newton, assistant professor from U. of Maine, will teach industrial chemistry; Dr. Hoogsteen, Sutherland Paper Co., U. of Indiana and seven years with Dow plastics, will teach plastics; Charles Gardner, assistant superintendent at Lee Paper Co. and with a master's from Lawrence, will teach fiber microscopy. John Dam, of Allied Paper and formerly with the Manhattan Project, will teach de-inking and bleaching. One or two other instructors were to be obtained from nearby mills. Incidentally, Dr. Newton recently did work for a group of Kalamazoo mills on uses for sludge from deinked stock.

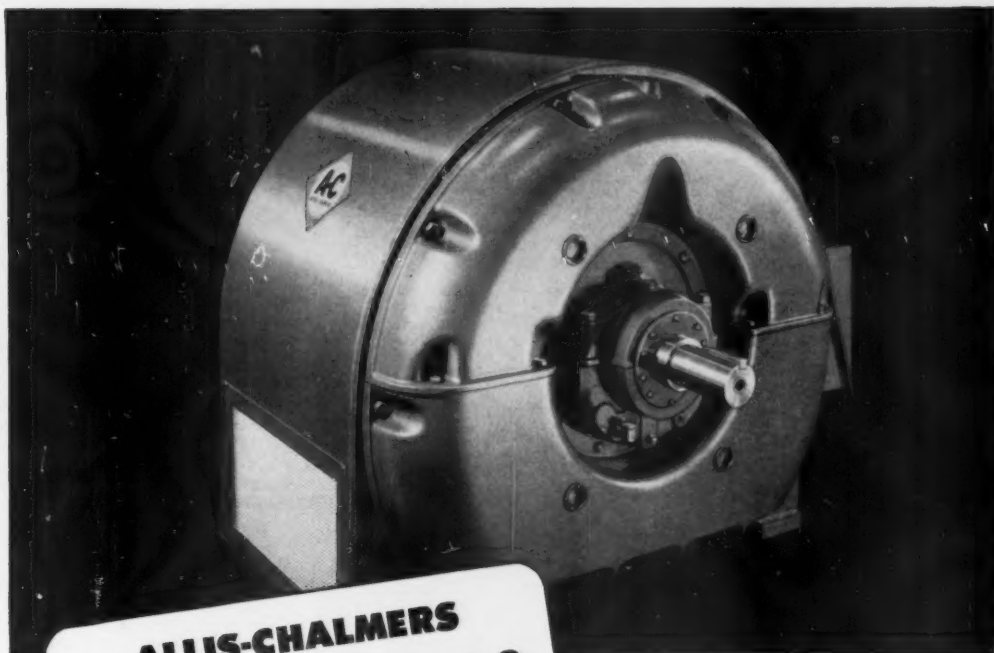
### Where Did 1951 Grads Go?

There were eight graduates in 1951. It might be of interest where they have



THIS IS NEWEST ADDITION to Western Michigan pulp and paper lab equipment, just installed when visited by PULP & PAPER editor—a new small digester of 200 lbs. pressure, made by Michigan Steel Casting Co., with electric boiler.





## ALLIS-CHALMERS LARGE MOTORS

# ... Combine Protection & Accessibility

**M** AINTENANCE COSTS are dealt a double blow by this new line of Allis-Chalmers squirrel-cage induction motors. First, its protective design features minimize the need for maintenance operations. Then, its planned accessibility cuts the cost of doing the maintenance work.

#### How Maintenance is Reduced

In these motors, protection begins with drip-proof construction. But it does not end there. Air discharge openings in the stator yoke are given the added protection of removable louvered panels. Air intakes in the rigid cast iron end shields are located so as to prevent injury to the windings by mishandled tools or other objects. Capsule-type bearing housings protect the bearings and oil supply when the windings are

being cleaned. The capsules can remain sealed against abrasive dirt throughout the cleaning operation.

#### How Costs Are Cut

This added protection has been achieved without sacrificing accessibility. One man can perform all routine maintenance operations. To check the air gap he simply removes a few screw-type plugs from the bearing end shields.

For cleaning, he removes the upper halves of the end shields and reaches right inside the motor with his vacuum

cleaner or air hose. And there is plenty of room to reach up back of the stator core through the air discharge openings in the sides of the yoke.

#### Wide Range of Sizes

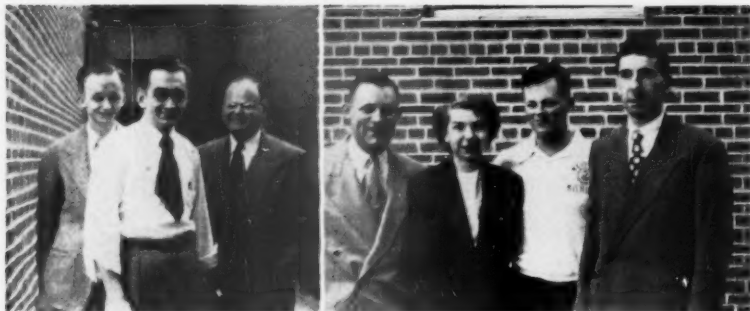
These modern-design drip-proof (or splash-proof) cage motors are built in sizes from 60 hp at 300 rpm to 2000 hp at 1800 rpm. Ask your Allis-Chalmers representative to show you the details of this exceptional new motor, or write Allis-Chalmers, Milwaukee 1, Wisconsin, for bulletin 05B7542.

A-3409

## ALLIS-CHALMERS







**INSTRUCTORS AND STUDENTS** in Western Michigan pulp and paper courses taken by PULP & PAPER on visit as school year started recently (l to r): PAUL NEWTON, from Univ. of Maine, with a master's, teaches industrial chemistry; ARTHUR HUPP, from Watervliet, Mich., a senior; DR. A. H. NADELMAN, head of curriculum; RODERICK PERKINS, student from Salem, Ore., mill of Oregon Pulp & Paper Co., MRS. PERKINS, working in Kalamazoo Panelyte Div. of St. Regis; RUDOLPH SCHMUT, who came all the way from Austria to learn how to use new lab equipment, granted to University of Graz by U. S. Government, and ARNE ANDERSON, a senior from Rexton, Mich., who had been working at KVP.

gone:

Edward E. Stephenson, of Syracuse, Ind.—to Sutherland Paper.

Wilbur Kite, of Kalamazoo—to Lee Paper. Wilbur Noel, of Coldwater, Mich.—to Kalamazoo Paper.

Raymond Wagner, of Wayland, Mich.—to National Gypsum.

Elton Krogel, of Bloomfield, Mich.—to Watervliet Paper.

Roger McVicker, of Chester, Pa.—to Otsego Falls Paper.

Winand Uhl, of Monroe, Mich.—to American Coating Mills.

Donald Huyser, of Kalamazoo—to Allied Paper.

Obviously, this year and in future, the list will grow, the mills employing the graduates will be farther afield.

From the Pacific Coast this year came William Geiger II, of Tacoma, Wash., nephew of Wm. Geiger of Weyerhaeuser Pulp Division; Roderick Perkins, from a Salem, Ore., mill, and—from not so far

west—Kenneth Gilbert Dickerman, Jr., son of Consolidated Water Power & Paper's technical director.

Endowments have been increasing. The Norman Bardeen memorial scholarship is \$200 for each year for four years. The Paper & Twine Assn. sponsors three \$200 ones for freshmen. The National Supts. Association (\$200), the Kalamazoo local TAPPI section (\$100) and the Paper & Twine Assn. (for another \$150) have swelled the scholarships and there are individual grants for qualified students.

There are many names on the letterhead of the advisory committee for the school, men who have time and aid. E. E. Ludwig, who is credited with having the idea for the school, heads the list. Industry men on the main advisory committee are Max Bardeen, president of Lee Paper; Olin Callighan of Edgar Bros.; F. B. Curtenius, secretary-treasurer of Kalamazoo Paper; R. C. Germanson, chemical engineer, KVP, F. C. Goodwill, St. Regis resident manager. Industry men on various committees are President Dwight Stocker of Michigan Paper. Roy Holden of Stowe-Woodward, D. B. Gearhart of G. E., F. L. Chappell and Jim Foxgrover of Hercules, Glenn Stewart, ad manager of KVP, P. D. Carter of KVP, President G. K. Ferguson of Watervliet, R. L. Davis of Detroit Sulfit, Frank Eilers, of Eastwood-Neally, Al Sherwood and Cliff Wilson of Sutherland, M. R. Wilkins, of Kalamazoo Paper, and W. A. Kirkpatrick of Allied, Bill Macklem, ex-Black Clawson (retired), H. L. Bills of Sanixax, S. I. Kukolich of Lee, and H. C. Pearson, Pioneer Paper.

## FAO Work Expanding At Rome Headquarters

Word received by PULP & PAPER from Marcel Leloup, director of the Forestry Division of the Food and Agricultural Organization of the United Nations, now transplanted from Long Island, U. S., to Rome, Italy (Viale delle Terme de Caracalla is the address), reports growth of its activities.

Its technical assistance program for member nations is "assuming constantly increasing importance," he said. It is under D. Roy Cameron, former Dominion forester of Canada. The Forestry Division's deputy director is Egon Glesinger. It has three branches: (1) Forest policy and conservation, (2) research and technology, and (3) forest economics.

## 11 Nations Have New Sulfur Projects

An all-out drive by free world nations to end the shortage of sulfur threatening the allied defense program was reported here today by J. C. Carrington, assistant to the president of Freeport Sulphur Co., before the American Institute of Mining and Metallurgical Engineers. He listed 46 projects, including 24 in the United States, to produce sulfur in different forms from various sources. These are expected to yield, on the basis of present estimates, approximately 3,000,000 long tons of the mineral by the end of 1953. Government sources have placed the world shortage of sulfur at 1,000,000 tons annually.



**WESTBROOK STEELE**, President of The Institute of Paper Chemistry, Appleton, Wis., announces supporting members have elected Donald S. Leslie (at left) First Vice President and General Manager of Hammermill Paper Co., Erie, Pa., to the Board of Trustees of the Institute for a 3-year term. Others, to the right of Mr. Leslie, were re-elected for 3-year terms (in order): Sydney Ferguson, Chairman of Board, The Mead Corp.; Ernst Mahler, Executive Vice President, Kimberly-Clark Corp.; and W. Irving Osborne, Jr., President, Cornell Paperboard Products Co. Karl E. Stansbury, Chairman, Thilmann Pulp & Paper Co., was re-elected for a one-year term. Holdover trustees are: D. K. Brown, Neenah Paper; George E. Dyke, Robert Gair Co.; D. C. Everest, President, Marathon Corp.; Stuart E. Kay, International Paper; A. B. Layton, Crown Zellerbach; David L. Luke, Jr., West Virginia P. & P.; George Olmsted, Jr., S. D. Warren Co.; Nathan M. Fussy, President, Lawrence College; H. T. Randall, Champion Paper & Fibre; John L. Riegel, Riegel Paper; and Mr. Steele.

## Ad Men See What Nalco Does in Mills

It's been done before but not very often. However, it seemed noteworthy to record that Luther W. Mendenhall, advertising manager for National Aluminate Corp., Chicago, and John Mahon, of their advertising agency, Armstrong Agency in Chicago, decided they wanted to see how the Nalco products were used in mills so they visited recently the mills of Marathon and Rhinelander in Wisconsin.

## Wisconsin Populations

"Paper" cities of Wisconsin rank high in population.

Appleton from 1940 to 1950 grew from 28,436 to 34,010, ranks 12th in the state.

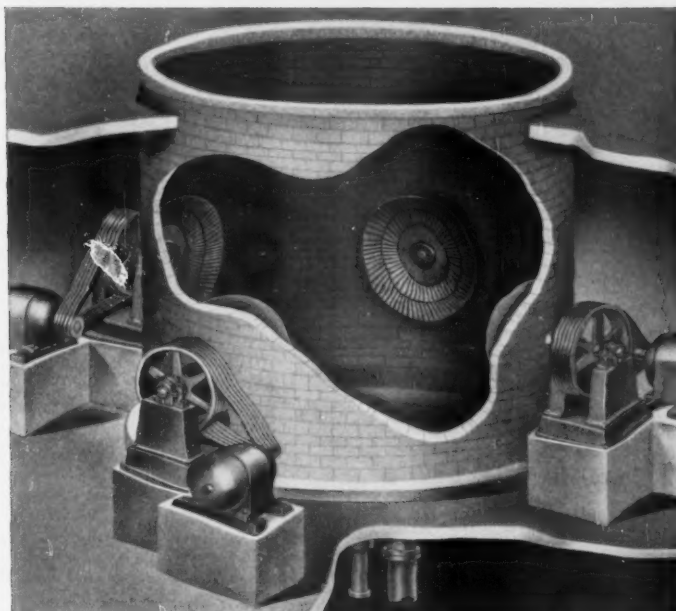
Green Bay, more diverse perhaps, but still a "paper" city, is 5th, grew from 48,235 to 52,735.

Beloit, where paper machines are made, grew from 25,365 to 29,590, ranks 16th.

All other "paper" towns are below the ranks of the first 20, but small towns have their many advantages.

# QuatroPulper

... a high production machine ... ideal for  
disintegrating pulp, broke or waste paper



**T**HE stock is charged all at one time into the top of the vat. Four DynoPellers (described below) subject it to the vigorous dynamizing action that completely separates each fibre from its neighbor, maintaining its original length. The simple operating principle and

design of the QuatroPulper eliminates the "wracking" and grief of other types of pulpers. Because there are few moving parts there is no loss of production time due to repair or adjustment. The QuatroPulper defibers the stock at low cost and produces a high quality slurry quickly and effectively.

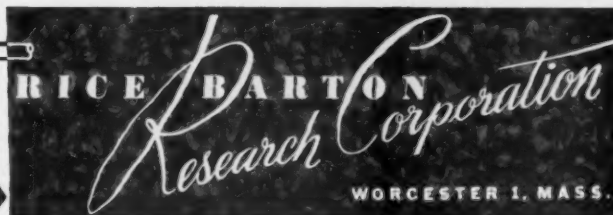
*Let us tell you how the QuatroPulper can save you money in processing your particular stock. Write today.*

## The DynoPeller .....

is the heart of all DynoMachines. Its concave face is lined with rough, hard carbide particles. As the DynoPeller rotates it causes a suction at its center that pulls the stock towards it. Centrifugal force then causes the stock to flow rapidly over the rough carbide particles. This effective dynamizing action completely disintegrates the stock ... separating each fibre from its neighbor while maintaining its original length.



RBRs



# REORGANIZATION AT THE KVP

## DEWEERD IS SECRETARY, OTHER NEW TITLES

A reorganization of management and executive roles in the Kalamazoo Vegetable Parchment Co., Parchment, Mich., has been effected for the purpose of better defining the responsibilities of persons in virtually all of the important positions of the company.

Also, a re-assignment of office space and extension of offices into two other buildings adjacent to the main office are other important developments at Parchment.

With KVP riding to the end of the greatest year in all its history in production and sales, which is a reflection of the dynamic role of paper in food packaging today, these changes were apparently necessary.

Alfred "Doc" Southon, who succeeded the late Ralph Hayward as president and general manager, has sought a greater delegation of the various responsibilities and the reorganization—involving a number of new titles for top officials—was primarily his project.

Meanwhile, the purchasing department of KVP—a staff of eight persons headed by Frank Wotalewicz, with Al Webster as a principal aid, has moved into what was a residence—a building on the corner east of the main office.

Also, Robert A. Huston, industrial relations manager, and the personnel department have moved out of the main office building into a mill building that formerly was used for central stores. This is in the other direction—just to the west of the main office, and it places the personnel department in a strategically important location on the line of traffic between the two mills.

Thereby, the department is physically closer to the employees which it seeks to serve, and Mr. Huston and others of management believe this will have a good effect. As a result of these changes, there has been considerable re-arranging of office space in the main office building.

To many readers of PULP & PAPER who have contacts with KVP, the names and new titles of top officials are of value. Here is the list as reorganized and with new titles in some cases:

President and general manager  
Alfred "Doc" Southon  
V. P. in charge of manufacturing  
John C. Wood  
V. P. in charge of sales  
C. F. Christy  
V. P. in charge of consumer and market research  
J. B. Kindleberger  
Secretary  
Harold DeWeerd  
Asst. treas. and chief accounting officer  
W. R. Hess  
V. P. in charge of Canadian operations  
Norval Hunter

### Manufacturing

Manufacturing manager Robert D. Caine  
Manufacturing superintendent  
Marshall Rutz  
Pulp and paper consultant  
Frank D. Libby  
General superintendent, paper making  
William Hathaway

### Harold DeWeerd Elected Secretary of KVP



Mr. De Weerd for many years had the rare experience of being the confidential personal secretary of the two men who left their lasting imprint on the company and the industry—Jacob (Uncle Jake) Kindleberger, who founded KVP and Mr. Hayward, who succeeded him as president.

For 26 years, Mr. DeWeerd greeted many callers on the two presidents, handled their correspondence and files, attended board meetings and conferences, and acquired thereby a rich background of experience.

Now, as the result of retirement of T. W. Peck, he has become a company officer.

Born in Holland, Mich., Mr. DeWeerd joined KVP in 1925, just two weeks after graduating from Parsons Business College in Kalamazoo at the age of 18. He had worked in a bank while in school; at KVP he took an active part in several sports. In 1938 he married Doris Crouse, of KVP's stenographic department, and they have two sons, 9 and 5. Harold's mother lives in

Election of Harold DeWeerd (shown in picture) to office of secretary of the company is one of the most popular developments at KVP in the view of many who knew him inside and outside the company.

### Superintendent of printing

Dellmore Moffett  
Master mechanic Fred TerBurgh  
Chief electrician Harley McDaniel  
Superintendent, Mill No. 2  
Lester LaLiberte  
Superintendent, Mill No. 1  
George Johnson  
Chief chemist M. Kane

### Other Executives

Purchasing agent Frank Wotalewicz  
Traffic manager Melvin Lievens  
Industrial relations manager  
R. A. Huston  
Director of advertising Glen Stewart

There has also been considerable reorganization in sales with W. Donald Brownell, director of home office sales; Merle Wood, director of field sales staff; James Southon, director of sales promotion and planning and other new assignments.

Kalamazoo and a sister is a missionary in India. He is treasurer of Parchment Union Methodist church and former treasurer of the school board.

Mr. Hess succeeded to Mr. Peck as assistant treasurer. Mr. Peck retired after 28 years service.

### More KVP Old Timers

Al Perlick now a key production official; Reginald Hurst of the lab, Owen Vickers on paper machines, Trina Sterk in parchment division, John Dudley, beater engineer, Riley Hardin, print shop, and Charles Vraney and Carl Preston, in sales, are recent additions to the 25-year Old Timers of KVP. The mill has four 35-year men.



FRANK D. LIBBY, in a new photo taken by PULP & PAPER, now has title of Pulp and Paper Consultant at KVP Co., where he served many years in top manufacturing. From Univ. of Maine, he started in the lab.

### Two Countries To Have First Paper Mills

Rhodesia's first paper mill, Umtah Paper Mills, will be in production the end of this year, making 100 tons a month. It will use purchased pulp. Equipment is being shipped from Britain and South Africa. The mills are capitalized for 100,000 pounds British.

This African development follows close on recent news of the first paper mill to be built in the new nation of Israel in the Near East.

### Germans on Tour

J. W. Zanders, head of the Feinpapierfabrik J. W. Zanders of Bensbergerstrasse 92, Bergisch Gladbach, Germany, and his chief engineer Alfred Schoenawa, were recent visitors to mills in the Lake States on a tour of the country.

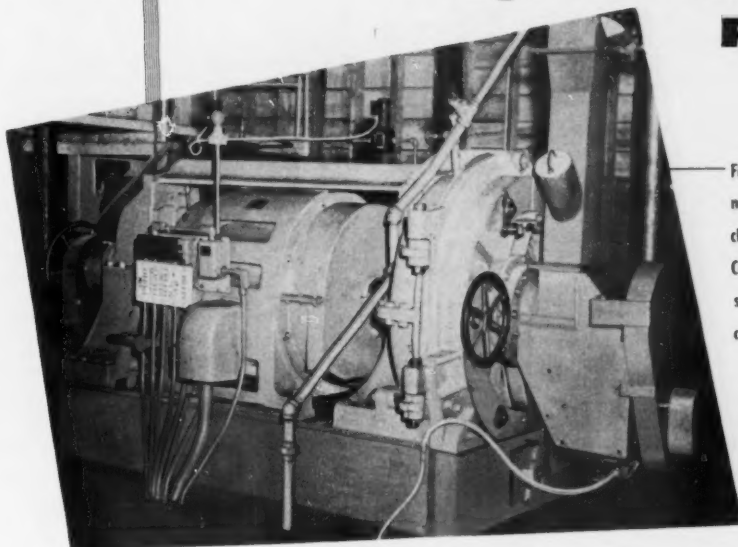
Their mill, near Cologne, makes 100 tons a day of writing and fine papers, on five machines. It has 12 coaters. They also make 20 tons of straw pulp and 14 tons of groundwood daily.

### AFL Unions in New Mills

The American Federation of Labor's pulp and paper industry unions won bargaining representation elections recently in two new mills and one new converting plant—International Paper Co.'s new dissolving kraft pulp mill at Natchez, Miss.; the new Masonite Corp. mill at Ukiah, Calif., and Marathon Corp.'s new converting plant at Sunnyside, Wash.

*to solve refining  
problems economically—* **CORNELL uses a**

## **Sprout-Waldron Refiner**



First Sprout-Waldron unit in Cornell Wood Products Company semi-chemical pulp mill installation at Cornell, Wisconsin, making neutral sulphite semi-chemical pulp for cylinder board sheets.

Sprout-Waldron Refiners do an excellent job in any kind of pulping, but in semi-chemical operations they far outperform similar equipment. They do more, do it better, and at less cost.

Their unique peripheral control ring feature provides great flexibility of adjustment which enables mills to produce a wide variety of pulp characteristics. *With the Sprout-Waldron you can pinpoint exact pulp requirements.* Rugged, long-wearing plates are available in many styles. They are easily changed, and are inexpensive.

These precision engineered Refiners involve a comparatively low initial investment. Additional savings are achieved through high production rates, economy in power consumption, ease of operation and maintenance.

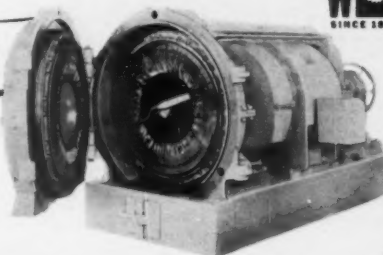
A Sprout-Waldron representative will be glad to explain how these Refiners can increase your output and save on operating costs. Write for Bulletin 41 which contains pertinent data on this equipment and how it can serve your needs. Sprout, Waldron & Co., Inc., 32 Waldron St., Muncy, Pa.

- List of Applications**
- ✓ Semi-chemical Pulping (Bleached-Unbleached)
  - ✓ Pre-Refining—High Yield hot brown stock
  - ✓ Kraft—Groundwood—Sulphite Knots & Screenings
  - ✓ Secondary Refining of Asplund Stock
  - ✓ Bleached Soda Pulp
  - ✓ Insulation Board Stock
  - ✓ Hardboard Stock
  - ✓ Flooring Felt
  - ✓ Special Applications

**The Sprout-Waldron 36-2 Refiner is**  
*the foremost producer of semi-chemical pulp today*

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*Manufacturing Engineers*

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SINCE 1866



# LAKE STATES TOUR

## A FIELD REPORT ON MILL ACTIVITIES

On a motor tour of 26 pulp and paper mills in Wisconsin and Michigan, as the fall leaves were turning and many a mill man was oiling up his guns for the hunting season, PULP & PAPER found that the industry generally was thriving. There were some soft spots, in board particularly, with one big board mill on four days a week as this was written, and some of the smaller off-machine coating mills were feeling a pinch, too. On the other hand, tissue mills, machine-coaters and food wrap manufacturers were rolling merrily along. Machine-coaters have been substantially reducing weight of stock, which has posed many new production problems.

At least four mills were making serious trials with ammonia base cooking in lieu of calcium base and one, Brokaw at Wausau, Wis., was to all intents and purposes permanently on ammonia for the simple reason that it was getting substantial added production with faster cooks and no added equipment. Consolidated at Wisconsin Rapids has six of its eight digesters experimentally on ammonia, the other two making semi-chemical sodium sulfite aspen pulp for book partial furnish.

But several mills have been waiting patiently for stainless evaporators to carry the ammonia tests beyond mere usage in

cooking, on a plant-scale experiment. They have been waiting and still are waiting for other stainless equipment.

Topside officials of state pollution commissions were confident Washington would allot stainless and alloy needs to the mills to complete projects designed for stream improvement, but these commissioners have now been disillusioned, and much to their surprise, too.

Waste liquor torula yeast, which only six months or so ago was being unhappily stock-piled at the Wisconsin industry's yeast plant, now the sole property of Rhinelander, was almost suddenly dis-

posed of. For the first time, a new and promising market was found for dog food. As a result, one Wisconsin mill which has an order in for an evaporator, was thinking seriously of switching to yeast, on the grounds the government might approve it as a food supply need. The "evap and burn" school of thought was finding no sympathy or support in Washington.

### ABOUT OUR COVER

As a scene that would typify the Lake States industry, PULP & PAPER chose for its cover picture this month an exclusive air view of the Escanaba Paper Co., at Groos, near the resort town of Escanaba on upper northwest shore of Lake Michigan. H. E. Whitaker (shown in picture), in Chillicothe, Ohio, continues to have su-

pervision over Escanaba and Manistique, the Michigan subsidiaries of Mead, though recently his duties were broadened as he was made executive v.p. of all Mead mills.

At Escanaba, where British-born Ernest Bennett is the resident in charge, there are two 166-inch machines, No. 1 making machine-coated papers by Mead process. This machine has been almost entirely rebuilt with color presses, etc. A new size press has been added to No. 2 and other improvements made.

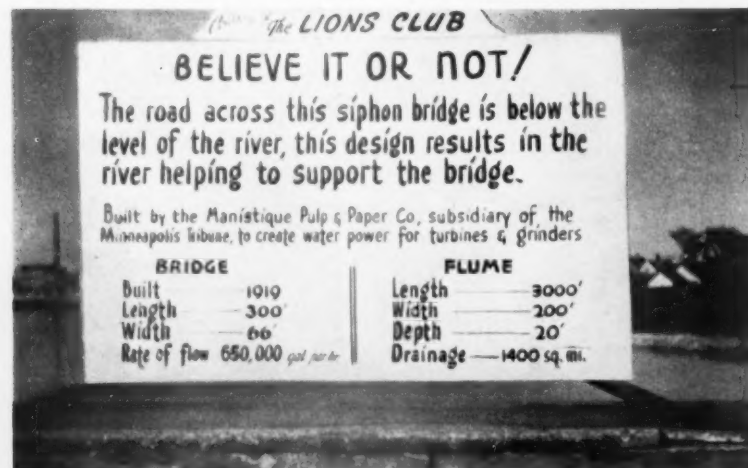
Perhaps it may be said Escanaba rates the cover spot on our issue this month, for it is distinguished as a mill that pioneered in groundwood bleaching—also, as a mill which is making SNOPEAKE, a Mead groundwood offset sheet which is one of the first of its kind on the paper market.

Matt Smith, well known for many years as the president of the Mead subsidiaries at Escanaba and Manistique (he lived in Escanaba) passed away a few months ago, and his duties have been transferred to other executives.

Manistique, where R. T. Hentschell is manager, is one of those mills of the old newsprint era in the U. S. which inevitably passed to higher grades and higher returns as a result of the depressive political pressures which gradually has virtually driven most of the newsprint industry beyond the U. S. borders. It made its first news for the



SOME OF THE EXECUTIVES OF THE MEAD OPERATIONS in Northern Michigan (left to right): ERNEST G. BENNETT, Vice President and General Manager of Escanaba Paper Co., (see our cover picture). He was born and raised in England, and was formerly with M & O Paper Co. at International Falls, Minn. R. G. HENTSCHELL, General Manager of Manistique Pulp & Paper Co., which is the other Mead mill in North Michigan. Mr. Hentschell has been at Manistique since days when it was making newsprint for Minneapolis Tribune. E. H. NIEDRAUER, who is Assistant Manager at Escanaba Paper Co., under Mr. Bennett. STANLEY L. LEISHMAN, Paper Mill Supt. at the Escanaba mill. He came there a few years ago from Dill & Collins Paper Co., and formerly was on the Pacific Coast.



SIGN TELLS STORY OF THIS PICTURE. Though picture was taken recently by PULP & PAPER on tour, it has been partly out of date since 1943. Mead now owns the mill (not the Minneapolis Tribune). Power for 80-ton groundwood mill supplied by the river.



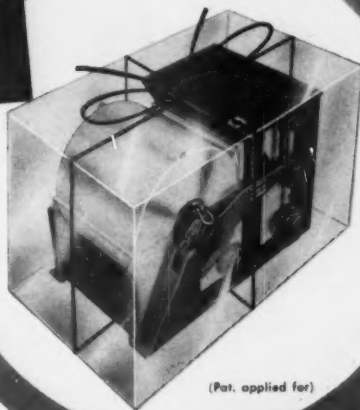
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Since the PULP-MASTER was put on the market, four years ago, 142 units have been sold to leading mills in the United States, Canada and abroad.

More important to you is the record the PULP-MASTER has set—in a wide variety of applications — for high quality production, reduced beating cycles, efficient use of power and low maintenance costs.

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## PULP-MASTER

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BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

Minneapolis Tribune in 1920, was bought by Mead and converted to higher grades in 1943.

#### NORTHWESTERN MEETING

A meeting of the Northwestern Division of the Superintendents Association drew a gathering of 250 persons, including PULP & PAPER's representative to a resort on Lake Gogebic, about 50 miles south of the Ontonagon mill of National Container on Lake Superior.

Last month we published photographs and descriptions of the wood preparation equipment which Paul H. West, pulp superintendent of Thilmany Pulp & Paper, described at this meeting. Incidentally, Mr. West succeeded Mace Harris, manager of pulp manufacturing at Northwest Paper, as chairman of this division.

There were two other technical talks given at this meeting. Elsewhere in this issue we publish the paper which was given by Bruce Armstrong, formerly of Schweitzer Paper, now head of the new pulp and paper division of Jackson & Church of Saginaw, Mich., on a new type of screw pulp press being applied in groundwood bleaching, de-inking and semi-chemical plants. Also we publish new photographs of Valley Iron Works stock formation equipment installed in a western mill which illustrate the talk their v. p. of sales, Paul Boronow, made on this subject.

Unfortunately, it was a rainy weekend, but this only tended to make those present better acquainted and the more hardy ones were not daunted from golf course, fishing holes and trapshoot range.



MANAGERS OF THREE OF THE CONSOLIDATED WATER POWER & PAPER CO. mills attended the Northwestern Division convention in Northern Michigan (left to right):

DR. WILLIAM FOOTE, Manager at the Wisconsin River Division (machine coated paper) near Stevens Point, Wis., where he succeeded the late Chet Morse a few years ago. Dr. Foote was raised in Appleton, attended the Institute and been with Consolidated over 12 yrs.

JAMES A. RUSH, Manager of the Stevens Point Division (wax and tissue papers), with consolidated since 1933. Manager since '41. Jimmy Rush was born in Millinocket, Maine, worked in the mill there summers, then with Fitchburg Paper starting in 1925, then American Writing.

LEONARD SMITH, Manager at the Interlake Division (sulfite mill at Appleton), for the past several years. He had been a Pulp Supt. with Nekeosa-Edwards.

This was an unusually good representation of management at the meeting. The two other Consolidated Managers who could not attend were Warren Beadle at Biron and Clarence E. Jackson at Wisconsin Rapids.



(l to r): PAUL H. WEST, Pulp Mill Supt., of Thilmany Pulp & Paper Co., who was elected the new Chairman of Northwestern Division of Supts. He gave a paper on wood barking and chipping. Equipment he discussed was illustrated in feature article in PULP & PAPER last month.

ROBERT J. GILMER, is Pulp Supt. at National Contalwest Paper Co., Cloquet, Minn., retiring Chairman, just 50 miles north of the convention hotel. He was Convention Chairman.

MACE V. HARRIS, Mgr. of Pulp Mfg., The North Paper Co., Cloquet, Minn., retiring Chairman, capped his successful term in the Division by Chairmanning the events at Marinisco.

GUS K. KLAUS, Supt. of Converting Dept., Northern Paper Mills, Green Bay, Wis., was elected new Sec'y-Treas. of the Northwest Division, as newest member of officers to move up step by step to Chairmanship. Born in Green Bay, graduated from U. of Wis., 1923, in chem. eng., he went to Northern 28 years ago and been there since. Started as lab assistant, took present post in 1940. Is married, has son, 14.

LAURIN SABATKE, Paper Mill Supt., Marathon Corp., Rothschild, Wis. who has done excellent committee work on many Northwestern Superintendents' conventions.



VIEWS ON THE TRAPSHOOTING RANGE at Northwestern Superintendents' Fall Convention: Top (l. to r.): E. C. JACOBI, of Green Bay, Midwest representative of Sandy Hill; FRANK LIBBY, Pulp and Paper Consultant to KVP Co., Parchment, waiting his turn; LARRY MURTFELDT, Pulp Supt., Consolidated Water Power & Paper Co., is behind him ready to raise gun; Two spectators at right are PETE TALBOT, of Kalamazoo, representative of Williams-Gray Co., and LLOYD GREINER, of Benlo Chemicals Co., Milwaukee, Wis.; Bottom, (l to r): H. G. MAISHAW, veteran representative of Bird Machine Co., out of Evanston, Ill., loading his weapon; LEONARD PARKINSON, Paper Mill Supt., Rhineland Paper Co., a native of England, is cocking his gun.



KEY MEN IN THE NORTHWESTERN DIVISION, who were at North Woods fall meeting. L. to r. front row: LARRY MURTFELDT, Pulp Supt., Consolidated Water Power & Paper Co., who became First Vice Chairman; PAUL WEST, Pulp Supt., Thilmany, new Chairman; MACE HARRIS, Pulp Mfg. Mgr., Northwest, who retired as Chairman. Back row, l. to r.: CHET LARSEN, Corn Products, Milwaukee, Convention Committee; MYLES W. REIF, Gen. Supt. and Asst. Gen. Mgr., Blandin Paper, new Second Vice Chairman, and CHARLIE CAIN, Hooker Electrochemical Co., on Committee.

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# A Screen-Vat Assembly Well Worth Considering

Operators considering the erection of new board mills, the installation of additional cylinder machines, or the rebuilding of old ones, should seriously consider this special B-C Screen-Vat assembly.

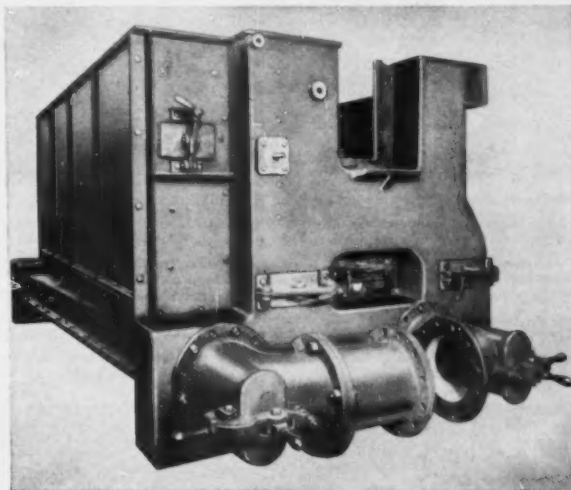
Shartle Selectifier Screens ahead of the vats (both liner and filler) for final cleaning and fiber bundle breaking. No mix boxes required.

Black-Clawson precision built vats incorporating vat circles, sides and partitions individually engineered for maximum efficiency and strength to withstand hydraulic forces at work.

Each vat individually engineered for your specific papermaking requirement. Over seventy-five years of experience in paper machine "know-how" incorporated in every vat that leaves the Black-Clawson plant.

Mills that install Selectifier Screens in lieu of flat screens—B-C "Job Engineered" Vats with specially designed inlets—will benefit far more than they realize.

Full particulars upon request.



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## THE NORTH COUNTRY

It offered an interesting opportunity to see this country which was a frontier in the lifetime of some now living, home-steaded late in the last century and a great lumber area. Driving through the area which now is largely national forests, big pine stumps of the past era could be seen. But crowding around them are vigorous new growth. The once-despised aspen or poplar, now eagerly used in new pulping

processes, is even being planted with the encouragement of the Forest Service. Much jack pine is thriving here and spruce is coming back strong in areas. Will spruce be back in 25 years? That is a question on many lips.

One of these forests, the Hiawatha (where we found a deer and dog pal that chase cars) is bounded at three points roughly like a triangle by the three mills, Escanaba, Manistique and up north on Superior, by Munising Paper Co., last of a

line of Northern Michigan sulfite mills. Huron, Dunn and Alpena have quit sulfite but Munising goes on, though it is in the rare circumstance of being a mill which never owned any timber or timberlands. Today it gets wood from some 200 to 250 producers where it used to get it from 50. High cost of wood as much as the political pressures on pollution drove out the other sulfite operations. Some wood for Munising has come 150 miles across Superior from the Nipogen forests of Canada. Bud worms ravaged much of this.

This is a mill which has specialized in sulfite papers. C. W. Curtis is v. p. and manager; B. L. Trillich, the president, is in Chicago, where his staff had a busy time lately quieting rumors of sale of the mill. James McIntyre is technical director and N. J. Nicks, the superintendent, is widely known for holding patents on many specialty papers. Joe Nicks is night superintendent.

Munising has often been called the "Institute of the North" and the last part of that nickname was fitting enough when there was 15 feet of snow winter before last. But like Appleton, it has "graduated" many a noted son—Howard Morgan, now head of Weyerhaeuser's Pulp Division; Dr. James Foote, who has returned to the U. S. after being at Eddy in Canada; S. H. Grimmes, chief engineer at Plattsburgh, Ray Baker, now a manager at Longview, Wash., Dr. Forman, now with Scott Paper, Dr. Howells and others.



SNAPPED AT NORTHWESTERN SUPTS. meeting by PULP & PAPER:

1—ROBERT RUSCH, Paper Mill Supt. at the Mosinee Paper Co., pioneer kraft mill at Mosinee, Wis., who went there just about year ago from North Tonawanda, N. Y., mill of International Paper.

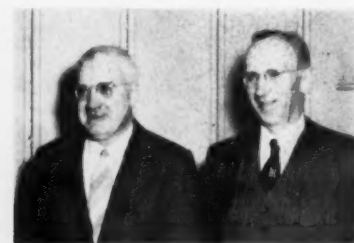
2—LEONARD PARKINSON, Paper Mill Supt. at Rhinelander Paper Co. Born in Farnsworth, England, raised in Toronto, schools at Harrisburg, Pa., Academy and Syracuse U. (Pulp & Paper School, '32), he started with Kimberly-Clark in research, was Supt. at Flambeau, went to Rhinelander in 1949.

3—FRED SULLIVAN, Sales Engineer out of Milwaukee for Inflico Inc., water treatment engineers, and JAMES KAHN (right) Mgr. of Pulp and Paper Division of Inflico, who is based in Chicago.

4—STAN WALTERMERE, Sales Engineer for Chain Belt Co., (on left) and FRED R. PAMPEL, Supt. of Sales, Chain Belt, both out of Milwaukee.



1. DON'T be startled by the fierce looking animal in this picture. He had paid a visit to a taxidermists, and was a decoration at the hunting and fishing lodge where the division met. MISS JOYCE HAMISH (left), who is Secretary to Mill Mgr. Newton Cuneo of the Ontonagon mill of National Container, and MISS DONNA HOEFFERLE of the Personnel Dept. at Ontonagon, who registered delegates, show no fear of this wolf. 2. NORMAN RAYMAKER (left) Supt. of No. 2 Div. at Hoberg Paper Mills, Green Bay, and PAUL GIESLER, Tour Foreman at the same mill. Both born at Green Bay, Mr. Raymaker was 21 years at Hoberg, Giesler, 10 yrs. 3. JOHN A. McPHERSON (left), Milwaukee-born Asst. Plant Engineer at Mosinee Paper Mills. He went to Dartmouth and U. of Wis., graduate school in engineering, was four years with Marines in the war, a Captain. HAROLD A. SKINNER (right), Oshkosh-born, Pulp Mill Supt. at Marathon Corp., Rothschild, Wis. He has been 35 years at Marathon—before that was in fruit business. 4. ARTHUR T. YODER, Paper Supt. at National Container of Michigan, Ontonagon, had his 68th birthday May 1 but his father, who owned and operated a mill at Bartow, Pa., for 50 years, is still living and 90. Mr. Yoder went to Ontonagon 26 years ago from Mosinee.



SIGGE EKMAN (left), Pulp Supt. and KARL FRIES (right), Tech. Director, Rhinelander Paper Co., which will join semi-chemical pulping field with its use for glassine. Studies on semi-chemical pulp over many years by Dr. Fries were reported earlier this year in PULP & PAPER.

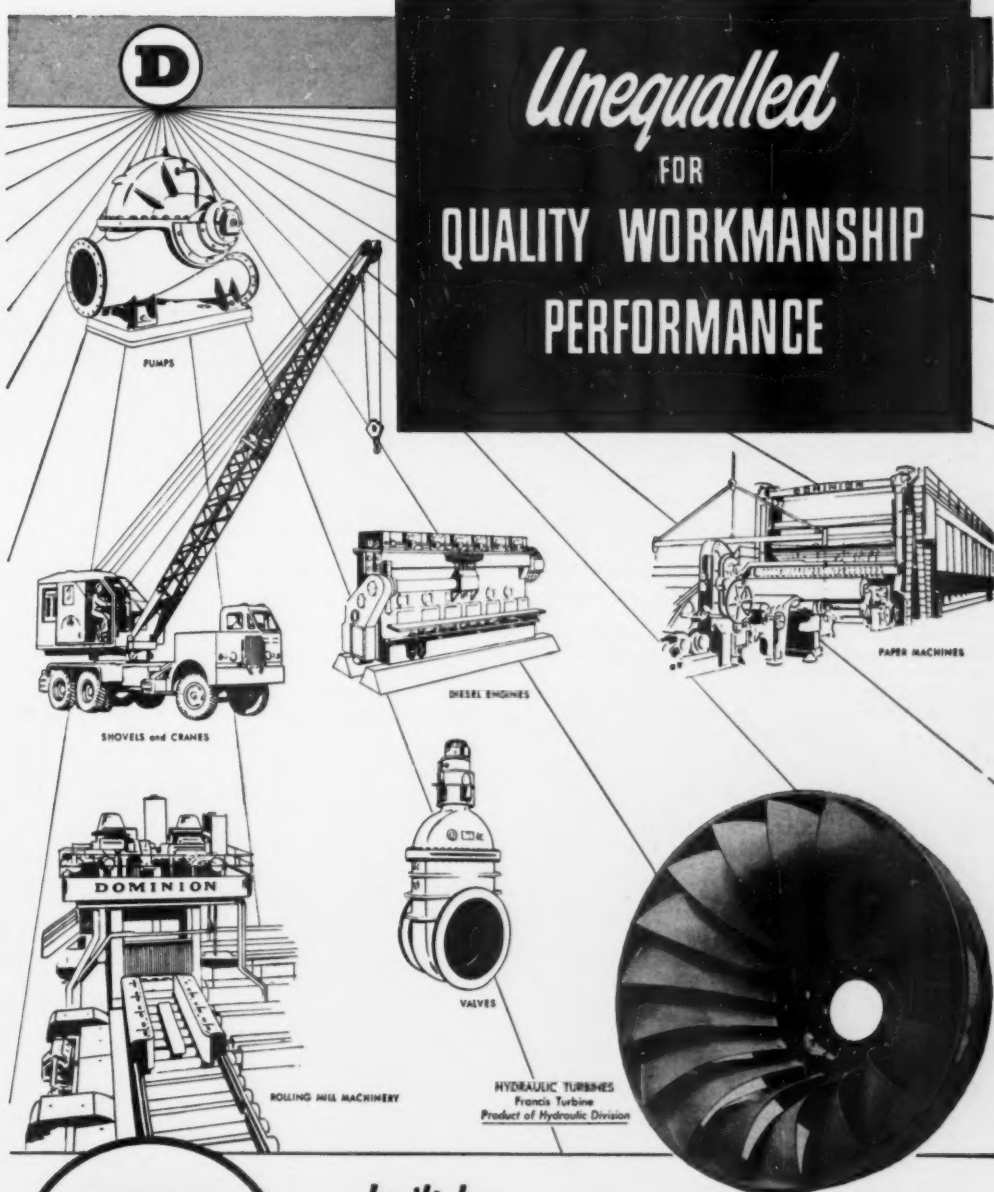
## SEMI-CHEMICAL PULP

PULP & PAPER's tour revealed there has certainly been no lessening of interest in semi-chemical pulping in the Lake States—indeed, it has increased by leaps and bounds.

A doubling of production is being or has been carried out at two of the mills whose semi-chemical plants were described and illustrated in this magazine's series on semi-chemical pulping—American Box Board's Filer City, Mich., subsidiary (Nov. 1950 issue) and Green Bay Pulp & Paper on Green Bay, Wis. (Jan. 1951) and Consolidated Water Power & Paper is continuing two digesters on aspen sodium sulfite semi-chem in Wisconsin Rapids for bleaching and book stock furnish (as we described, Aug. 1950).

Now—as was forecast in these columns well over a year ago—the next important move in this field will be extension of semi-chemical pulping to the glassine-





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greaseproof industry. It has been many years—back to pre-war—since Rhinelander Paper Co. began working out the glassine problems with the U. S. Forest Products Laboratory in Madison, Wis., sponsors and pioneers of the semi-chemical trends. What the lab is shooting for, and what the mills want, will be exactly the same in glassine—a higher yield of pulp from wood, more species useable, less chemical effluent.

The Rhinelander, Wis., semi-chemical pulp mill is only on paper as of now, but equipment is ordered and now it is only a question of time when the installation will be ready. The expectations of the Rhinelander Paper Co. is pretty well backed up by the studies which were published early this year in PULP & PAPER, to wit:

Forty tons a day production; 65 to 70% yield after bleaching from aspen (poplar); possibly up to 30% of this new pulp to be mixed with Rhinelander's Mitscherlich sulfite for glassine. The program also calls for increase of bleach plant capacity from 80 to 105 tons a day. Two fletchers will be added but intermediate washing is calculated as sufficient.

Three cooks a day are planned from two 14-ft. mild steel rotary digesters being built by Ohio Machine and Boiler Co. Three of the large size No. 410 250 hp. Bauer Bros. pulpers have been ordered for the semi-chemical plant. Link-Belt conveyors, two leech casters by Stehling Co. of Milwaukee with Rhinelander furnishing concrete, and tile brown stock chest made by the Rhinelander staff and vacuum washers are principal semi-chem installations. In 1952 it should be in production.

## AT WATERVLIET PAPER CO.

One of the pioneering units in the extension of semi-chemical pulping to the higher grades of paper was visited on this tour at Watervliet Paper Co., near Lake Michigan on one of the attractive stretches of road from Kalamazoo to Chicago.

This is still what might be called a pilot plant—making only 10 tons a day bleached aspen semi-chem for book grades, but it is only so in the sense of size. As far as its success and its commercial use goes, it is no longer a pilot plant.

\*See Note

It must be remembered that Watervliet makes 500 tons a week of coated book paper of fine quality and would be very happy to enlarge the pulp operation if it were practical from other considerations.

A modified neutral sulfite process is used but though effluent is comparatively slight, it would be a most difficult thing to increase in view of pollution problems in this area. In fact, President George K. Ferguson, took quite a revolutionary step in putting in just a 10-ton plant at that location.

For the whole industry of the state and for the development in uses of the vast forests of hardwood that are now growing in Michigan, Watervliet performed a greater service than they did for their own company.



GEORGE K. FERGUSON, President of Watervliet Paper Co., where small semi-chemical plant is success.

There plant has shown that for certain desirable characteristics, there is no pulp even the equal of the Watervliet product for book paper, mixed with conventional pulps. It is a short-fibred pulp with splendid tensile strength and fold.

Twelve cords of aspen wood a day, 4 to 12 in. diameter and going to chipper in 8 ft. lengths, are processed. A spherical digester, two Bauer pulpers and complete three-stage bleaching (chlorination, acid wash and hypochlorite) with automatic Fischer-Porter controls, are principal steps.

\*The adaptation of bleaching techniques to this type of pulp has been an interesting contribution.

## BY-PRODUCTS IN WISCONSIN

As we indicated at the beginning of this article, there has been some revival of interest in by-products in the pulp and paper field, probably because an expansion here might be serving a mobilization need for stock food or other needs and thereby gain government approval for expansion.

Still, a great many industry leaders are naturally reluctant to spread their investment into fields in which they are not familiar.

On this tour of Wisconsin and Michigan, of course, the extensive operations of Marathon Corp. were visited, one of the unique examples in the industry of development of dried products from waste liquor—started many years ago by the late Guy Howard from the state of Washington but modified and changed in many ways since then under President Clark Everest and Vice President Allen Abrams.

A new development of this kind, and promising to be as fully extensive, but possibly in different directions is the by-products division of Rhinelander Paper Co., under Jesse Holderby, who formerly headed the joint Sulfite Research League's activities in Appleton and before that was a city government specialist in waste problems on the Fox River.

Over the years Mr. Holderby has earned the respect of both state pollution authorities and industry men for his practical and scientific approach to this old problem and for this reason he was selected by President Folke Backer to head the new activities at Rhinelander.

The torula yeast plant built at Rhinelander by the Sulfite League and using half of the mill's waste liquor has been operating for three years, and a great many things about it and its markets have been learned. It was quite widely known in the industry six months ago that the yeast was stockpiling quite discouragingly at Rhinelander, because there was a weakening of the poultry feed market it served.

This situation has changed very favorably. A new market in an unexpected quarter went a long ways to work off the six months' backlog of some 600 tons of torula yeast. It was a dog food market. Some 260 tons were sold rapidly and the situation now at Rhinelander is that the



PHOTOGRAPHS TAKEN ONE YEAR APART at the McKee Hybrid Poplar Plantation, recently visited by PULP & PAPER at Marathon Corp., Rothschild, Wis. Ralph McKee, formerly of Columbia University, and now of McKee Forestation Inc., New York, developed this hybrid. Twigs only 12 to 14 inches long were planted in sandy soil at Rothschild on May 13, 1949, with only 2 inches above ground. These photos show results after second and third growing season. J. H. Kleinschmidt of Marathon Research showed the trees to PULP & PAPER. Now the trees have average height of 15 ft., some up to 20 ft. So far they run heavy to leaf and branch in early growth, but show good trunks.

See  
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EVAPORATOR  
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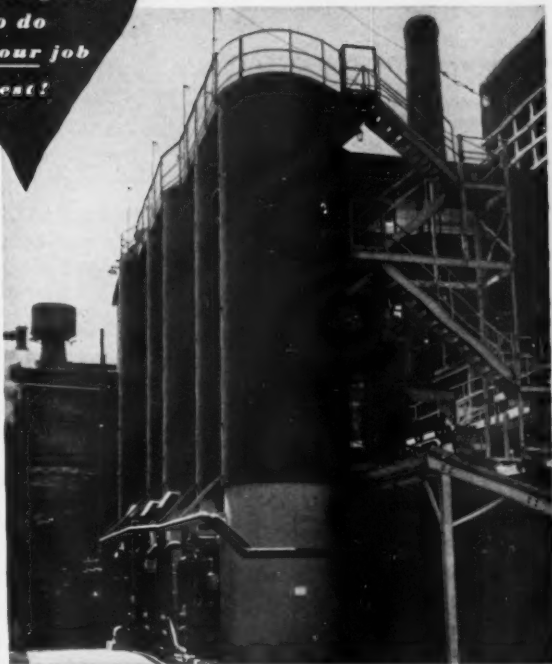
## Conkey Integral Self-Supporting Evaporator needs less space—no housing. Easier installation! Greater capacity!

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The new Conkey Integral Evaporator is shipped fully assembled and a single up-ending operation sets it in place. Its vertical positioning saves floor or ground space, and where weather conditions permit, the entire unit may be installed outdoors. No housing is needed except for pumps and instruments.

Because its design reduces pressure drop losses between effects, the Conkey provides an increased working temperature drop across the heating element surface. Result: a net positive gain in evaporation—extra evaporating capacity. For complete technical information, write for Evaporator Bulletin.

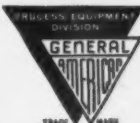
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yeast is moving at such a heartening pace that there is sometimes only a car or two, or maybe none, to be moved.

Rhineland was the first of four Wisconsin mills to place its order for a stainless steel evaporator from General American Transportation to further process waste liquor. This is a most interesting development at Rhineland, because unlike the other mills, burning for fuel or possibly recovery for process, is not contemplated as the primary goal. Instead the plan is to evaporate and sell the concentrated or dried products in what may be entirely new markets. Burning will be employed to dispose of surplus, however, Rhineland is still waiting for this evaporator and there is no assurance when stainless will be available.

A new addition to the Lake States Yeast Corp., now Rhineland owned is being built at Rhineland to house a unit to remove dissolved gases from spent liquor before the liquor goes into the tank where the yeast organisms are located. There will be new circulation equipment, to maintain favorable temperatures. These improvements are expected to speed yeast growth, reduce costs.

One of the interesting developments which has stirred some technical men is the possible market for waste liquor propagated yeast for cortisone, one of the newest of the so-called miracle drugs and used for treatment of arthritis. Previously the raw material, ox gall, was from the slaughterhouses, but it has been found that waste liquor yeast is a rich source of ergosterol, and there is a good strong demand for large quantities of cheap ergosterol to make cortisones.

Marathon at Rothschild goes on its steady and non-dramatic way of producing some 15,000 tons a year of dried products from its sulfite waste liquor in the plant it founded back in 1932. But there have been some changes. There are now five classes of products:

1. Boiler compounds. These have been made for about ten years or so and have found good markets.

2. Tanning materials. These are just getting into volume—not just as a filler as in the past but as a tanning material for specialized uses which are more important in returns.

3. Dispersants. In just two years this has developed some importance in sales to the dye industry. An important comparative new use is dispersing carbon black in liquid latex which cannot combine without a dispersant.

4. Chemicals for keeping down the viscosity of mud in oil wells.

5. Vanillin. This is the old product but is being expanded with production of an ethyl vanillin twice as strong as the usual product.

In past years the chemical plant had ventured into plastics and a lignin board, but now the above five categories are established ones. Ross Wilcox is in Mr. Abrams' department, and the plant employs about 100 persons. Marathon, of course, would be first to concede that what it is doing cannot be an answer to liquor problems for the whole industry, for the markets are limited. Marathon is looking



ENCOUNTERED ON PULP & PAPER's Wisconsin Tour:

1. **LEON LHOEST JR.**, whose father is Manager of Royal Dutch Paper Mill Co. in Maastricht, Limburg, Holland, where new Foundinier by Voith will be licensed to use Consolidated coating process and will double output of 4-machine mill. It will have Shartie Hydratfiners, Hydrapulper etc. Young Leon is gaining experience working on in Wisconsin mill.
2. **ALLAN H. THUERER** of Appleton, Wis., who is the Secretary and Supl. for many years at Appleton Woolen Mills, widely known in the industry. He keeps close touch with industry development.
3. **KARL OBERREICH**, Asst. to Mr. Thuerer at Appleton. He attended the Institute and is member of well known family in Fox River country.
4. **JOHN GERHAUSER**, Technical Director, of Appleton Wire Works, Appleton. He has made a long study of wire improvement and development and is expert microphotographer.
5. **JESSE HOLDEN**, Mgr. of By-Products Division at Rhineland Paper Co. Just recently he found new market in dog food for waste liquor tarula yeast plant which he operates at Rhineland. Before it had all gone to poultry, sales lagged and six months production stockpiled. Dog market has been shot in arm that moved it away.

into the use of new liquor bases, evaporation and burning of liquor itself and the nearby Brokaw mill, which is very close to Marathon in its management, has adopted the use of ammonia on the simple basis of adding to frequency of cooks, and therefore, of production.

In the pollution abatement activities of the industries, there are developments:

The shortage of metals which has alarmed national defense production authorities threatens to set back Northern Paper Mills' program for reducing sulfite

pollution. The Green Bay company asked state authorities for extension of the date for completion of its sulfite liquor disposal plant.

The plans approved by the state provided Northern would build and equip by the end of this year a 1,750,000 plant to evaporate and burn spent liquor.

"We have worked conscientiously and hard to comply with the state order to have our new pollution control plant in operation this year," said Milan Boex, president of Northern Paper Mills.

"One of the acute problems, has been that we have been unable to get delivery of 150 tons of Type 316 stainless steel. Only Type 316 will do the job required of the big evaporator which is the very heart of the plant we are under orders to build. The company which plans to build the evaporator has been unable as yet to get Type 316 stainless and now reports that while it is sure it cannot get the stainless before the first quarter of 1952, the company is by no means certain that it actually can get the material then."

Some of the major items already on hand for Northern are five stainless steel pumps to handle spent sulfite liquor, 12 pump motors, a 100,000 gallon wooden storage tank and three stainless steel tanks. Also stored in the warehouse are all of the required stainless steel valves, pipes and fittings; the brick, glazed tile glass blocks and aluminum vents needed for the new building; and most of the numerous smaller items required. Northern already has a building to house its evaporating plant.

The second major part of the total installation will be the burning division. The foundation for the burning unit has been ready and waiting ever since last winter.

More than a million dollars worth of boiler and other power plant equipment must be obtained for burning Northern's sulfite liquor.

#### \$10,000,000 IN ORDERS

Wisconsin pulp mills now have in use or on order approximately \$10,000,000 worth  
(Continued on page 58)

#### Abrams, Marathon V. P., Tours Nine Countries

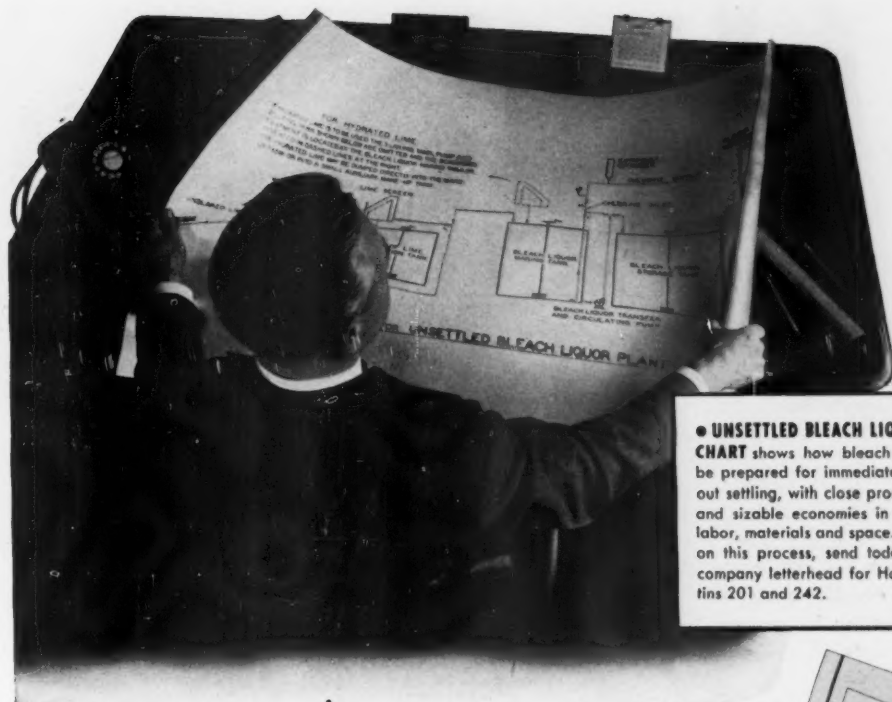


Allen Abrams (in picture), vice president in charge of research, Marathon Corp., Rothschild, Wis., made a recent tour of nine countries in Europe, including the Scandinavian countries and several on the Continent and was accompanied by Mrs. Abrams. On part of the trip, including a visit to Norway,

he was with Dr. Ferdinand Kraft, technical director of Marathon Paper Mills of Canada.

A modern piece of equipment seen by Mr. Abrams was in at a mill at Fengerfors, Sweden, 50 miles from Karlstad, where a Kamyr continuous type of digester was operating with raw materials, chemicals and steam continuously carried through to final washing. Chips were introduced under pressure with rotary feed.

Mr. Abrams visited a sulfite and paper mill in Maxau, Germany, which had been bombed out in the war and was just getting back to substantial production. He was impressed by high costs of wood in Europe, particularly off private land. In one place he was told wood was 35% more costly from private than state forests.



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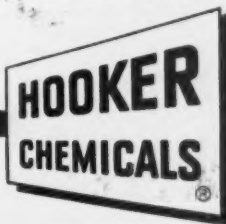
- Bulletin No.
- 201 Process and Equipment for Making Bleach Liquor for Use Without Settling
  - 211 Chemistry of Bleaching Chemical Wood Pulp
  - 214 What Do We Know About Bleaching?
  - 236 Importance of pH and Catalysts in Bleaching Operations
  - 242 Production and Use of Unsettled Bleach Liquor
  - 243 Procedures and Brightness Grades in Bleaching Sulfate Pulp

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November 1951

55



# OLIVER

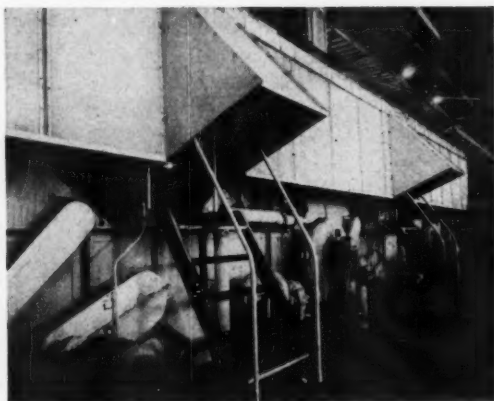
*"Ringvalves"*

**... that led to a record-breaking order**

**A** year or so ago we announced an order for 16 Oliver Ringvalve Filters from a paper company operating in the South. This was the largest single order for "Ringvalves" ever placed and, certainly, one of the largest single orders for any type of pulp and paper mill filters ever placed anywhere. In every respect, it was a record order.

Now, along comes a bigger order from the same company for 17 Oliver Ringvalve Filters, consisting of Brown Stock Washers, Bleach Washers and Deckers.

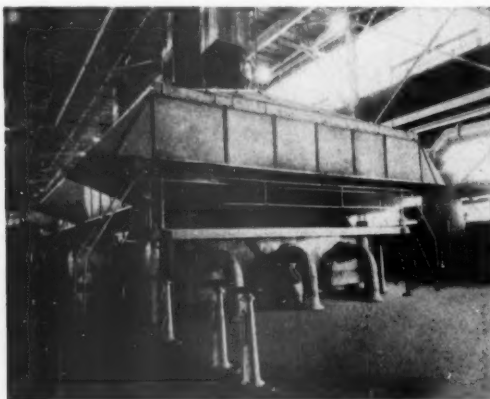
The most important feature is not the size of the order — interesting as that may be — but what brought it about. Those placing this order had been operating "Ringvalves" for several years and endorsed them. They liked particularly the inherent *plus* capacity in Ringvalves always available when the production pressure is on. They liked its satisfactory washing, regardless of tonnage handled. So, when plans for a new



Three Brownstock Washers — Drive Side.

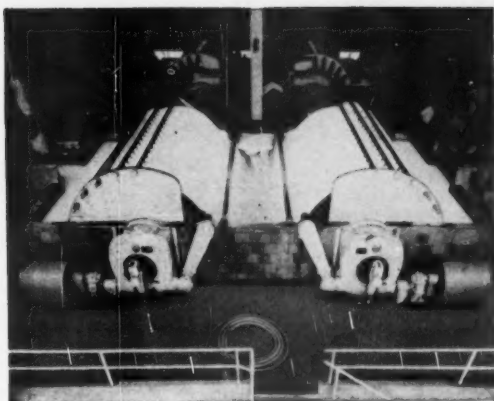
mill were being drawn up, the choice was the Oliver Ringvalve Filter for all operations where it would properly fit.

Could you ask for any stronger testimonial? When a company lives for some time with a piece of equipment doing vitally important work and then can say "This is what we want for our new mill" . . . that equipment must be right! Certainly, it must be satisfactory! Being satisfactory and being right is the main reason why the Oliver Ringvalve Filter — 17 units in all — is going into the company's new mill and why it has gone into so many other mills. Including this record-breaking order, the total Ringvalves now in service or under construction runs well over one-hundred-and-fifty.



Three Ringvalve Brownstock Washers — Feed End.





Bleached Pulp Ringvalve Deckers in foreground (rubber covered, stainless fittings); Unbleached Pulp Deckers in rear (steel with stainless steel fittings).

The Oliver Ringvalve Filter, unique in design among all mill filters, offers the following advantages:

- 1 ... Each unit can do either single or two-stage washing.
- 2 ... Multi-stage washing plus re-washing can be done on fewer units.
- 3 ... Because of these combined operations, pulp is handled less frequently; less pumping and accessory equipment are required.
- 4 ... Permits operation with more dilute feed in vat thus promoting more uniform and better sheet formation; hence, better washing.
- 5 ... Central drainage quickly frees section of liquid thus helping to form uniform sheet.
- 6 ... Central location of the valve, directly under the sections, provides minimum time lag resulting in better separation of wash liquor.
- 7 ... Barometric leg operation.



In addition to the 17 Oliver Ringvalve Filters ordered for the new mill, the company is buying a standard 8 x 12 pipe type Oliver Saveall with tile vat, similar to the unit illustrated above. This unit is rubber covered with stainless steel fittings.

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PICTURES OF INDUSTRY LEADERS IN LAKE STATES. (l to r): ROBERT E. KISSELL, General Supt. of Hoberg Paper Mills, Green Bay, Wis., since 1947, standing in Hoberg's new machine building ready to house new No. 1 Beloit 178 in. Fourdrinier with Reliance sectionalized drive. Mr. Kissell belongs to a family whose name is well known in automobile industry, but his career has been in paper. He graduated in business with engineering at Wharton School, U. of Pa., been with Hoberg since 1932. During war when Hoberg owned Hudson Sharp machinery firm, he managed it. C. W. CURTIS, Vice President and Gen. Mgr. of Munising Paper Co., Munising, Mich., on Lake Superior. Makes map, impregnating and bleached specialties and operates sulfite mill with owning wood, which recently given rise to mill sale discussions; S. R. DAVIS, of Neenah, Wis., a former mill owner himself in Wisconsin, is Special Representative in that area of Crane Co. of Chicago's Valve and Fitting Dept.; MIKE McMAHON, representative of Appleton Woolen Mills, and for many years a caller on the mills of the Middle West, dressed in fishing tags just as he arrived at Marinisco meeting from fishing vacation at Finland, Mich.; LESTER F. HERMAN, engineer and pulp and paper industry representative for Gruendler Crusher & Pulverizer Co., of St. Louis. In development of new fiber uses, he has specialized.



#### MAKING NEWS IN WISCONSIN MILLS:

- 1—FRED C. DEMP, Paper Mill Supt. (on left) and WALT SHERMAN, Assistant Mgr., both of the Kansas City Star Co., Flambeau Paper Div., Park Falls, Wis. They were at Supts. convention, told of big improvements in wood handling in their mill, mechanization and changeover from 2 to 4 ft. wood has eliminated about 2 3rds of old equipment. Manager is Leonard Kuehl. Mr. Sherman was born in Elmira, N. Y., went to Syracuse U., started at Park Falls in '36. Mr. Demp has been 2 1/2 yrs. there, came from Ward and Merrill mills.
2. GUSTAVE BECKER, who heads all converting operations at Rhinelander Paper Co.; ROBERT E. HARPER (center), Administrative Engineer at Rhinelander, and ART W. LEUPOLD, Vice Pres. of C. R. Meyer & Sons, Engineers and Contractors of Oshkosh, Wis. They are talking over the big expansion at Rhinelander—New No. 8 Machine by Beloit being rapidly installed (second in 2 yrs.), new Semi-Chemical Plant etc. Mr. Harper was born in Clearwater, Neb. attended U. of Neb., has been many years at Rhinelander, starting in lab and latter under Pulp Supt. Sigge Ekman. Gustav is brother of President Folke Becker.
3. EDWARD EDEN DOOVEN, Gen. Supt., Northern Paper Mills, Green Bay, Wis., whose crew pushed Northern's new No. 5 172-in. Beloit, believed largest Yankee creped tissue machine in world, to a record of 56 1/2 tons production of 12 1/2 lb. Northern tissue in Sept. No. 6 Machine started up Apr. 14, 1951—Northern's second new machine in 2 years. Mr. Den Dooven, born in Green Bay, attended University of Wisconsin; was 20 years with Hoberg, and the last 5 years with Northern.

(Continued from page 54)  
of equipment for reducing sulfite liquor pollution in streams. This estimated total does not include the expense of formal research or programs abandoned as impractical.

More than half of the estimated total consists of projects to evaporate spent sulfite liquor and burn it or put it to other uses. Three Fox river mills—Hoberg Paper Mills and Northern Paper Mills at Green Bay, and Consolidated Water Power and Paper Company's Interlake mill at Appleton—have state approval on their plans for evaporation and burning plants, and are under orders to build and have these in operation by Dec. 31, 1951. These three mills alone have committed more than \$4,000,000 to this purpose, and Interlake has recently installed a cyclone-type furnace of revolutionary design which has successfully burned concentrated liquor on several test runs.

But all three programs are currently

bogged down in unavoidable delays caused by their inability to get federal priorities for scarce metals.

Several other Wisconsin mills have carried their combustion tests to considerable lengths. Kimberly-Clark Corp. has had two major trials at its Niagara, Wis., mill. Badger Paper Mills of Peshtigo rebuilt two of its boiler plant furnaces to burn liquor. Nekoosa-Edwards Paper Co. has done a great deal of work in this field.

Rhineland Paper Co., even before pollution in the Wisconsin river had received official attention, placed its orders for an evaporator and the necessary accessories in Sept., 1950. Rhinelander seems likely to have its evaporator installed before any other mill in the state, but delivery dates are still indefinite.

The industry's estimates of pollution-reducing installations now in use or on order by Wisconsin sulphite pulp mills are as follows:

Evaporation and Burning . . .	\$5,545,000
Chemical Products . . . . .	3,500,000
Yeast Process (Rhinelander) . . .	500,000
Roadbinder	
(9 Wisconsin Mills) . . . . .	450,000
Other . . . . .	10,000
	<hr/>
	\$10,005,000

The new cyclone type furnace previously mentioned was designed by Consolidated's engineers and built at Consolidated's Biron plant, and has now replaced an old coal-burning furnace in the boiler room of the Interlake Mill at Appleton. Purpose of the test is to find the most efficient way to burn spent sulfite liquor, and for each trial run the furnace has had a different adjustment. Consolidated technologists and operating men report the outlook is excellent.

Fuel for the experiments is being processed in the Appleton pilot evaporator plant of the Research League by concentrating spent sulfite liquor to contain 55% solids. This requires boiling away about 8 1/2 tons of water to leave one ton of concentrated fuel. The new furnace burns the concentrated fuel much faster than the League pilot plant evaporator can produce it, and so the trial runs must be on a start-and-stop schedule. The installation can be used only intermittently until Interlake obtains the big stainless steel evaporator on order.

The new furnace is designed to start up burning fuel oil. After the unit is warmed up, it is switched over to sulfite liquor fuel containing 55% or more of wood solids. Thus far it has burned all such fuel satisfactorily, and has even handled one batch of 46% fuel which was fed to it by mistake. Experience with ash collection on the furnace has been particularly encouraging, say Consolidated engineers. While it is still too early in the experiment to be sure, indications now are that in this furnace fly ash from burning sulfite liquor may prove to be less of a problem than had been anticipated.

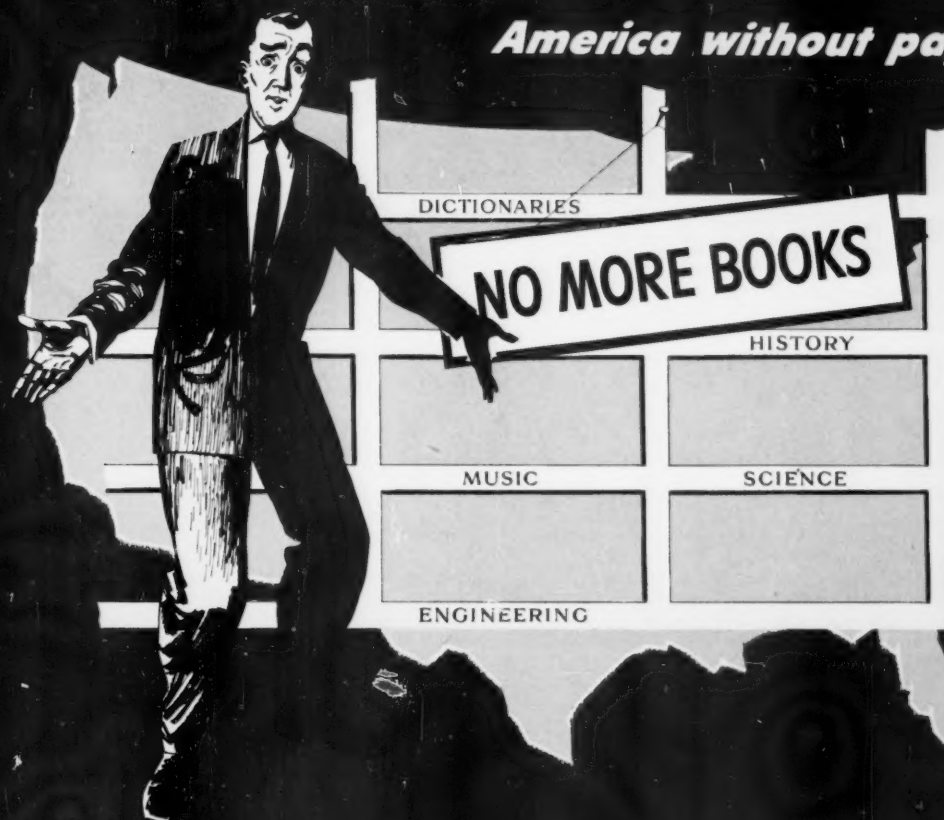
#### KALAMAZOO MEETING

Any industry man who has ever been exposed to it, will agree that one place in the country where a meeting is almost always going to stir up an interesting discussion is in the Harris Hotel at Kalamazoo. The tour of Lake States mills led to Kalamazoo on the day of the late September Superintendents meeting in that city, and it ran true to form as one of the really fine meetings that the industry holds.

The story in pictures accompanying this article tell of the awards, the election of officers, with Dick Peeters, the new chairman, and other developments at the session. There was just one technical discussion, but the group brought their speaker all the way from Gould Paper Co., Lyons Falls, N.Y., He was Lester J. "Lefty" Smith, manager at Gould, formerly at St. Regis in Kalamazoo and Combined Locks near Appleton, Wis., who talked about the "one-man bleach plant" which was featured in Sept. 1951 issue of PULP & PAPER (page 55). He gave some more practical aspects on this plant at Gould, which makes up to 130 tons a

# IMAGINE...

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Imagine a people without paper . . . a nation without benefit of the printed word! No printers . . . no publishers . . . and soon the libraries and bookshops . . . the storehouses of America's knowledge and know-how . . . would be obsolete. In such a paperless void, news, ideas, and information vital to the nation's strength and security would come to a dead stop. Even voice communication . . . America's telephone, telegraph, radio and TV networks . . . would quickly become silent. *Unthinkable?* Don't take paper for granted. Anything so vitally basic should be safeguarded. *America depends on paper!* Use paper wisely . . . protect its production . . . to keep America strong.

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# PAPER

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**CAN YOU USE REPRINTS?** This is one of a series of messages Beloit is running in Fortune Magazine to remind the U. S. of paper's importance. Reprints for bulletin boards and mailing available. Write to Beloit Iron Works, Beloit, Wis.



1—LESTER (left) J. SMITH (left), Mgr. of Gould Paper Co. at Lyons Falls, N. Y., who came back to Kalamazoo to talk about groundwood bleaching and other improvements at the N. Y. mill, is shown with RICHARD H. PEETERS (right), Supt. of Finishing at St. Regis, Kalamazoo, who was elected the new Chairman of the Michigan Supts. Division. Father born in Holland, he was born in Little Chute, Wis., was with Kimberly-Clark 15 years and 22 years with Combined Locks (with Lefty Smith) before coming to Kalamazoo 4 years ago.

2—LEE MIMMS (left), Kalamazoo Paper Co., and BILL HATHAWAY (right), KVP Co. Mr. Mimms was elected Second Vice Chairman; Mr. Hathaway will Chairman the January Get-Together with Kalamazoo TAPPI. The First Vice Chairman is Harry Hartman of American Box Board, Grand Rapids, and Secy.-Treas. is Alfred Madelman of Western Michigan College.

3—OTTO H. FISHER (left), who was given a life membership in the Supts. after 50 years in paper-making, with GLEN SUTTON, Supt., Sutherland Paper, National President of Supts. Mr. Fisher, born in Niles, Mich., started with French Paper, 1899, moved to Kalamazoo in 1903 and until retirement in '47 was with old King Paper, Allied and Bryant. With Bryant since 1912 and Supt. there '24-'47.

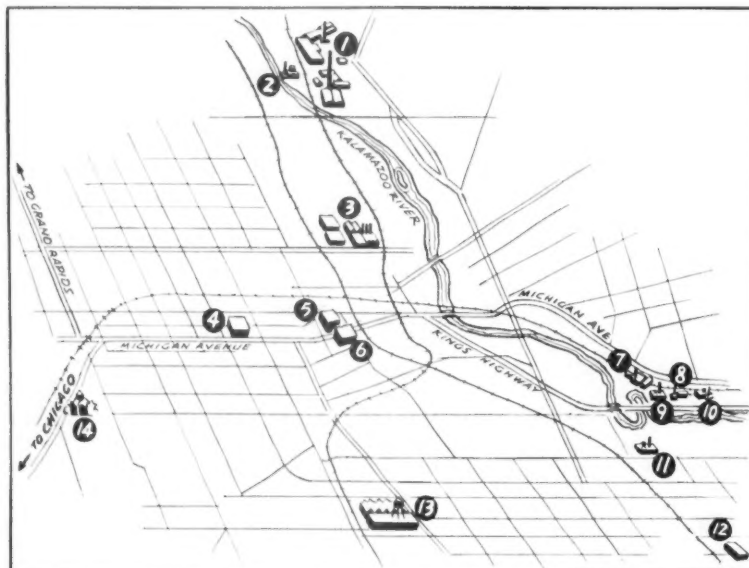


ON LAKE STATES TOUR, these people were among those active in industry: (1 to 6): JESSE H. TRASK, Mill Manager, Shawano Paper Mill, Shawano, Wis. His mill makes 50 tons of tissue and waxing and toweling per day. It purchases pulp.

LEO WILLOUGHBY, coating specialist of long experience in Kalamazoo and later with M & O Paper Co., now represents Staley Mfg. Co., Decatur, Ill. (starch).

HOWARD L. VANDENBERG, another Staley representative, was elected to Industrial Affiliates representative for the Michigan Supt., and is shown with AL SHERWOOD (right) Vice Pres. in Charge of Engineering at Sutherland Paper Co.

ROBERT F. McCLELLAN, District Mgr. for NOPCO Chemical Co. at 3623 Jasper Place, Chicago, Ill. JAMES VERDON, Sales Mgr. of American Cyanamid Co., at Kalamazoo, Mich.



MAP OF KALAMAZOO—By PULP & PAPER'S ARTIST:

1. KVP, 2. Hercules Power Company, 3. Sutherland Paper Company, 4. Burdick Hotel, 5. Harris Hotel, 6. Columbia Hotel, 7. Kalamazoo Paper Company, 8. Western Board & Paper Company, 9. Hawthorne Paper Company, 10. Rex Paper Company, 11. Allied Paper Company, 12. American Cyanamid Company, 13. St. Regis Paper Company, 14. Western Michigan College.



ROBERT "Bop" STEWART, (left), former Supt. of No. 2 Machine at Kalamazoo Vegetable Parchment, and ROBERT E. "TED" BURKHARDT (right), Gen. Supt. at St. Regis Paper, Kalamazoo, are two veterans of the Kalamazoo area, both hailing from the British Isles. Mr. Stewart, now a Consultant in Papermaking to KVP, was succeeded as Supt. when he retired in '48 by Les Laliberte. He was born in Aberdeen, Scotland, will be 80 next April. He worked at Thos. Tait & Sons, Inverurie, Scotland, was paper mill supt. for H & W in Maine from 1905 to '32, when he joined KVP as Supt. Mr. Burkhardt was born in Newcastle-on-Tyne, came to America in 1912 as mechanic at Espanola. He has been with St. Regis since 1927, part of time as trouble-shooter and asst. to late L. H. McCormick, when he was Supt. of all 8 St. Regis N. Y. mills. Ted came to Kalamazoo in 1949 after holding various key St. Regis posts.

day of bleached pulp, and told of other new developments at Lyons Falls mill.

R. W. Luethi, of Utica, N.Y., is president of the company which operates this mill. He has been connected with the paper industry and markets for a number of years.

As for other developments at Lyons Falls, Mr. Smith said its wood room is being remodeled to burn bark and refuse and that the sulfite mill has been totally rebuilt. The possibilities of a semi-chemical neutral sulfite operation with higher wood yield and use of a variety of north New York woods has been studied. In the sulfite mill, all piping is now stainless steel and new blow pits and vomit spouts have been installed.

On the subject of the Solozone bleach process, Mr. Smith brought out these additional points to article which appeared in September: There is an increase in cost of 90 cents a point for increasing brightness from 62 to 71 points in the groundwood peroxide process, as they reckoned it at Gould. Over 71 the increased brightness cost is relatively greater.

He explained that before building this plant, Gould investigated three of the outstanding continuous peroxide bleach plants of the country at Blandin Paper in Minnesota, Finch, Pruyn in New York and Bucksport in Maine, and he said the features of these three were embodied in the Gould plant.

He commented that in production of bleached groundwood pulp, "experience has a lot to do with quality and quantity and the laboratory is a good policeman."

One of the recent changes at Gould is to overcome the plugging of bleach liquor lines by residue, and Mr. Smith said experiments with rubber appear to be satisfactory.

One man easily controls the bleach plant at Gould, and does all his own



# Bingham

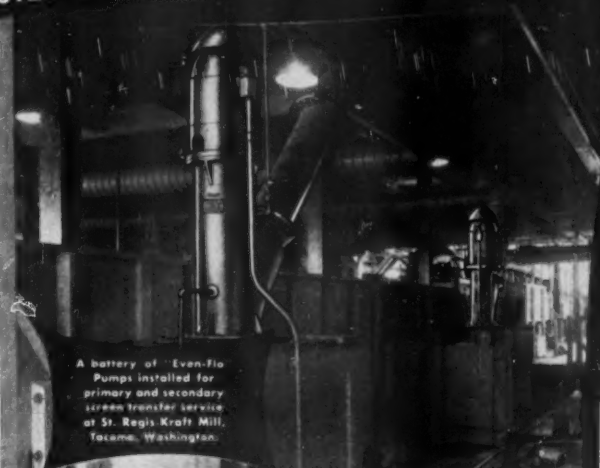
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OLIN (Cal) CALLIGHAN, an oldtime papermaker himself (he was Asst. Gen. Supt., with Allied Paper Mills in Michigan before he joined Edgar Bros.), and OTTO H. FISHER, veteran retired Bryant Supt., hold awards they received at Kalamazoo Supts. meeting. Cal's was for an outstanding year as Chairman of the Michigan Division—he was first salesman ever to be a chairman, but this was on basis of his having once been papermaker; Mr. Fisher's was Live Membership in Supts.



LOUIS C. MEYERS (left), former paper mill superintendent for Nekoosa Mill of Nekoosa-Edwards Paper Company of Wisconsin, who retired about a year ago, is now in the consulting field, associated with Cap Youngchild, of Appleton, Wisconsin. Mr. Meyers lives in Port Edwards, on Wisconsin River Avenue. At retirement he had been in the paper industry for 31 years, having begun as a water boy in the Nekoosa Mill. His brother is Ed Meyers, superintendent at Peshtigo.

RAY BARTON, (right), Gen. Supt. at Michigan Paper Co. of Plainwell, who made award to Olin Callaghan at Kalamazoo meeting—Sept. 20—on Mr. Barton's 20th wedding anniversary. He and his wife, Lurline "Gile", have two children and four grandchildren.

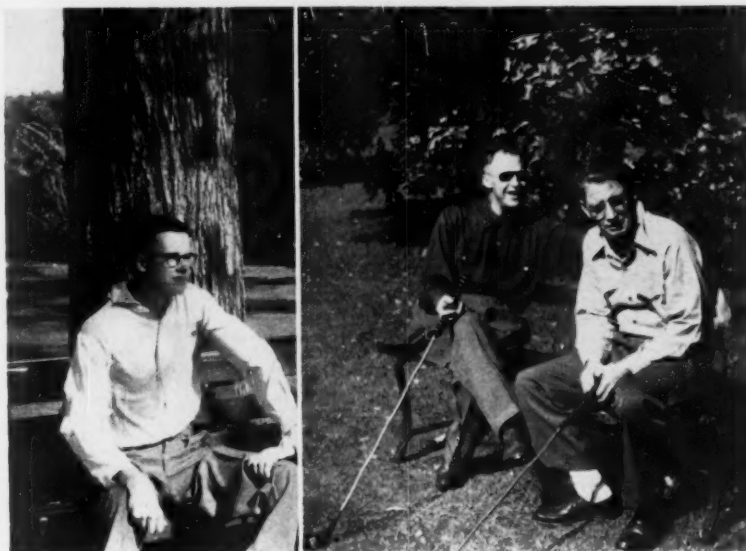
brightness testing, said Mr. Smith. Although the freeness tests show relatively no difference between the bleached and unbleached pulp, he said there is a noticeable effect on water removal on the paper machine. Using the bleached stock, he said, gives an opportunity for easier water removal on the Fourdrinier.

#### TISSUE EXPANSION

One of the most interesting observations made in a tour of the Lake States is concerned with the tissue field and particularly, of the remarkable growth of the tissue industry in the Green Bay lo-



SOME OF THE PULP SALES Executives based, or formerly in Chicago, whose photos were gathered at different times on Midwest tour: (l to r): FRANK FIEWIGER and KEN FOSS, both of Acer & Co., which heads up in Chicago for U. S. sales of several Canadian and Newfoundland pulps. WILLIAM GEIGER, Midwest representative of Wehrhauser Timber Co., WALTER LAWRENCE, representative of Soundview Pulp Co., who recently visited the mill in Everett, Wash., WILLIAM M. McNAIR, St. Regis Paper Co., and PAUL SCALLON, veteran representative in the Middle West area for Perkins-Goodwin Co., who has based in Appleton and Chicago. Mr. McNair now is based in New York.



MEAD PAPER AND PULP men and guests had an outing at Exmoor Golf Club, and this trio were pictured as they watched tee shots, (l to r): WILLIAM DEM. MARLER, U. of British Columbia grad, and Royal Air Force vet, who was sent east by Bloodal, Stewart & Welch, Ltd., Vancouver Island, for training course at Mead and other mills; BILL TILDEN, who heads paper sales for Mead in Chicago, and DAVE BRITTAIN, midwest representative for Mead Pulp sales.

cale where in just a little over two years four new machines have been installed or are soon to be operating.

Northern Paper Mills started its new No. 1, averaging 40 tons a day back in Feb. 1949. On Apr. 14 of this year, its No. 5—reputedly the biggest Yankee Fourdrinier on creped tissue in the world—started up and on Sept. 6 set a record of 56½ tons on 12½ lb. Northern tissue.

The Fort Howard Paper Co. and Hoberg Paper Mills are accounting for the other two new tissue machines on Green Bay.

A fine new addition, with light tiled walls, was all ready for the new 178-in. Beloit Fourdrinier Yankee which the Hoberg Mills is installing, when visited by PULP & PAPER. It is an addition at the back of Mill A and will be the fifth machine there—there are two at Mill B. It will be Hoberg's No. 1, the old No. 1, having been taken out some years ago.

The new machine will have a Reliance Electric & Engineering Co. sectionalized drive, a Beloit airloaded headbox. Also ready for it is a new Sveen 1500 gal. per min. saveall, which with an 800 g.p.m. unit installed two years ago, should clarify all

mill water after No. 1 starts up. An Allis-Chalmers streambarker will supplement existing drum barking capacity by the first of the year.

In the tissue world hardly less than in the wood pulp market world, the merger under way by which Scott Paper Co. acquires the Soundview Pulp Co., biggest sulfite pulp mill in existence, has stirred up much comment. Scott has already taken steps toward the construction of a tissue mill on the Gardner Bay, where the Soundview mill and Everett, Wash., are located.

Also in September, down Memphis way, Kimberly-Clark was starting up the third tissue machine in a plant it had only built since the war and a fourth was on order.

BFD's new tissue machine in '49 at Plattsburg and the other Kimberly-Clark additions of recent years, also the No. 14 machine of Crown Zellerbach at Camas, Wash., making the first facial tissue on the Pacific Coast, and additions at Pacific Coast Paper Mills in Bellingham and Westminster Paper Co., at New Westminster, B. C., are all part of a phe-

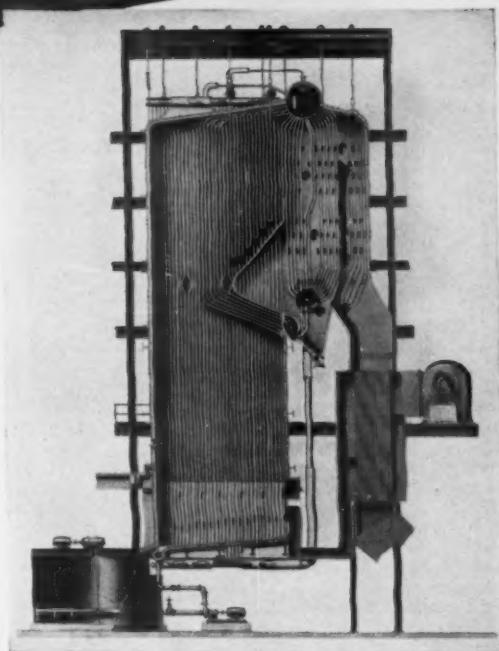


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P-762



**I. HOKE MARTIN** (left), who has been the new Kalamazoo District Mgr. of Paper Makers Chemicals Dept. of Hercules Powder Co. since early this year. Moved to Mich. from Freeman, Ont., where he had been Mgr.

**TOM G. BATCHELOR** (center), Asst. Director of Sales for Hercules' PMC Dept. in Wilmington, Del., and Acting Mgr. of the Canadian company since Mr. Martin moved.

**JIMMY FOXGROVER** (right), General Sales Mgr. for the Kalamazoo District. (Mr. Cliff Reppe, formerly of Helyoke and Portland, Ore., is Sales Mgr. in Freeman).

nomenal growth on this paper market.

It all adds up to the fact that tissue is finding greater and new uses in many directions and apparently it is simply an inaccurate statement to carry on the distortion that tissue is a "substitute" for other materials. It is no longer a substitute, it is unquestionably accepted as a superior product.

## OTHER NEW MACHINES

Rhineland Paper Co.'s No. 8 machine, 132 inches, was being erected as rapidly as possible in early fall. This is a Beloit machine which started out as a rebuilt job of the old No. 3 Yankee there but soon blossomed out as a program for a new Fourdrinier machine. It will have a Ross system and Westinghouse steam turbine basement line shaft drive. This is the second new machine here since the war. Along with it has come more expansion in use of Morden Stock-Makers, the first introduction of a Morden Slush-Maker in the industry, the addition of two new E. D. Jones Beaters and Pulpmaster and considerable other new equipment.

Another new machine is at Lee Paper Co., at Vicksburg, south of Kalamazoo, where unusual drive equipment has been provided by General Electric for the machine and a Moore & White 4-drum winder.

In many mills, improvements are being made. Mosinee Paper Mills has finished rebuilding a machine and adding new wood room equipment. In many places where the big postwar jobs are over, attention is being given to older machines and to smaller projects, all aiming to increase output and especially to upgrade the quality of markets in a market where quality counts.

**THIS IS THE DISTAFF SIDE** of Thilmany Pulp & Paper Co.'s Purchasing Dept. at Kaukauna, Wis. (l to r): **LORRAINE POWERS**; **DOROTHY DE JONGE**, Assistant Purchasing Agent; and **MARIAN O'CONNOR**. This is the complete department except for two important missing men: **E. R. (TED) SUTHERLAND**, Purchasing Agent, and **STANBURY YOUNG**, also an Assistant P. A.



On Lake States tour, PULP & PAPER was invited by Vice Pres. Benton Cancell to Rhineland Paper Co.'s Golf Jamboree at attractive Rhineland, Wis., Golf Club. Here are some of PULP & PAPER'S pictures snapped at party, showing some of golf tournament winning teams. Pres. Folke Becker was not yet home from Europe trip. Top row (l to r): Jack Anderson, Sales Dept.; Robert E. Harper, Administrative Engineer; Art Cihla, Maintenance; Con Stevens, Costs Dept.; Chet Schuman, Costs Dept.; Paul Lee, Sales; Jack Mahls, Sulfito Mill. Lower row (l to r): Dick Wade, Charlie Pievey, Don Stefanik, Jim Stafford, Tom Lawrence, Denny Maloney and Dave Forsman.

## Dickson Heads West Drive For Maine



Jack Dickson (in picture) Lake States representative for Stowe-Woodward Co., who lives in Kalamazoo, Mich., is also the Middle Western representative for the University of Maine Pulp & Paper Foundation by appointment of Dr. John Calkin, director of Industrial Cooperation at Maine. Mr. Dickson's duties are to interest sponsoring companies in University of Maine pulp and paper scholarships in the department of chemical engineering.

Besides Mr. Dickson, other prominent Maine graduates in the Midwest industry include Jim Davidson, M & O Paper Co. chief engineer; John Wood, Frank Libby and Bill Hathaway of KVP Co.



## Three Key Men At Nekoosa-Edwards



These three men have joined Nekoosa-Edwards Paper Co., Port Edwards, Wis., two in operating department of the Nekoosa mill and one in the purchasing department. **DR. CHARLES M. SIGVARDT** (left), in the operating department of the Nekoosa mill, is a graduate of Montana State University and received his doctor's degree from the Institute of Paper Chemistry, Appleton, in 1944. He joined Scott Paper that year and was named Technical Control Director of its Fort Edwards, N. Y., mill. He was advanced to Paper Mill Superintendent and later assigned to staff technical service covering all mills of Scott. Dr. Sigvardt was with Celotex in Chicago before joining Nekoosa.

**EDWARD NISSEN** (center) a 1944 graduate of the College of Forestry, Syracuse University, has also joined the Nekoosa mill operating staff. He has been a chemist with Camp Manufacturing Company, Franklin, Virginia.

**WILLIAM W. TOLLEY** (right) formerly with U. S. Gypsum Co., Chicago, has joined the Purchasing Department. A graduate chemical engineer of Lehigh University and Navy veteran, he served as engineering officer on a destroyer. He was Production Planning Engineer for Aluminum Co. of America in Edgewater, N. J. He joined U. S. Gypsum as buyer, and was later manager of the firm's packaging department.



### ... The Swords of Damascus

These blades are known for their strength and durability. They are made from a special steel that is forged in Damascus. The blades are known for their strength and durability. They are made from a special steel that is forged in Damascus.

FAMOUS  
*Blades*

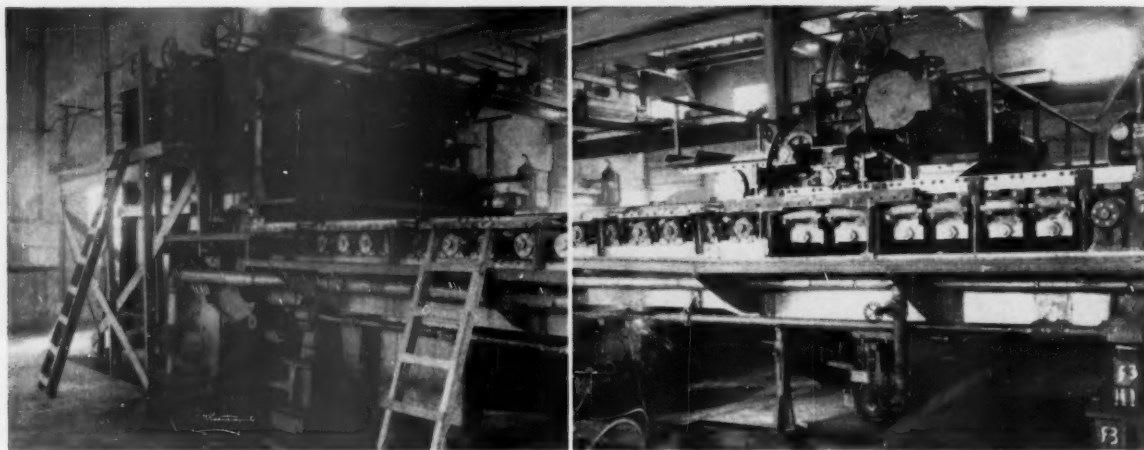


### ... Heppenstall Chipper Knives

These knives are known for their strength and durability. They are made from a special steel that is forged in Damascus. The blades are known for their strength and durability. They are made from a special steel that is forged in Damascus.

 **Heppenstall**

# NEW EQUIPMENT DISCUSSED IN MICHIGAN



NEW INSTALLATIONS at Longview Fibre Co., Longview, Washington, are of the primary stock entrance equipment (No. 1) and of the secondary inlet (No. 2) on the new No. 6 machine.

One of the important technical talks given at the fall meeting of the Northwestern Superintendents Division on Lake Gogebic, in Northern Michigan, on September 15 was one by Paul Boronow, on the subject of paper formation on the machine and the Valley Iron Works inlet. He is vice president of the Appleton, Wis., firm.

Mr. Boronow discussed the conventional Valley slice, medium speed general purpose slices, high speed general purpose slices, high speed special; slices for glassine and greaseproof, slices for medium and heavyweight specialties; also, rag stock slices and pressure slices. He also discussed the principles and the effects of flow direction onto the wire the significance of the many relationships of length of apron with respect to top slice position and the relation of these to the centerline of the breast roll and their effect upon formation.

Illustrating the points he made, and the subject of much of his discussion were the new installations at Longview Fibre Co., Longview, Wash., shown in these pictures. The two photographs are of the primary stock entrance equipment (No. 1) and of the secondary inlet (No. 2) on Longview Fibre's new No. 6 machine.

The primary stock entrance equipment has a 156 in. deckle and is designed for immediate machine speeds from 300 to 1200 F.P.M. with provision for future speeds of 1600 F.P.M. A stainless steel manifold receives stock from the fan pump, said Mr. Boronow.

A fully Lithcoted fabricated steel head-box with stainless steel interior, Neoprene covered distributing rolls and a stainless steel sliding baffle and wier are features. Also, an inlet of fabricated steel fully Lithcoted with stainless steel interior having adjustment to permit angular, vertical and horizontal adjustment of the upper nozzle blade and horizontal adjust-

ment of the stainless steel apron while the machine is making papers.

The secondary inlet is designed to put an approximate 20% overlay on board at machine speeds from approximately 400 to 1200 F.P.M. is used as a pressure inlet except at low speeds, Mr. Boronow said.

For this, Valley Iron Works furnished a stainless steel manifold, with flow control in the individual takeoff connected to the ports, to connect to the stock supply line and the inlet. The secondary inlet is of fabricated steel fully Lithcoted having a stainless steel interior. It is supported from the main Fourdrinier beam on adjustable legs. The apron is adjustable while the machine is operating and the upper nozzle blade is also fully adjustable while running, except for horizontal movements this being attainable by movement of the entire unit on its supporting rails. Other major portions of the new machine were made by Moore & White Co., Philadelphia.

## Another Goodwillie In The News!

James G. Goodwillie, a cousin of Bill and Russ Goodwillie of Beloit Iron Works, has joined A. O. Smith Corp. at Milwaukee, as industrial safety grating product supervisor. In this activity Mr. Goodwillie will develop advertising and sales promotion programs for A. O. Smith safety grating, working through the firm's district sales organizations in New York, Chicago, Houston and Los Angeles.

The marketing program under Mr. Goodwillie will include the building of a nation-wide distributor organization Central Steel & Wire Co. in the upper Midwest, and on the West Coast, Burnel Co., of Holydale, Calif., have been appointed.

A. O. Smith industrial grating include a patented feature by which the steel segments are locked in position when assembled. Also, serration gives it a safe, non-skid surface, desirable in industrial applications.

## New Installations At Hoberg Paper Mills

A 1500 gpm. Sveen saveall has been installed at Hoberg Paper Mills, Green Bay, Wis., and with a 2-year-old Sveen 800 gpm. saveall will take care of all of this mill's water clarification when the new No. 1 Beloit Fourdrinier Yankee machine is in operation around Jan. 1.

Reliance Electric & Engineering Co. is providing a sectionalized drive for the new 178 in. machine which will have an air-loaded Beloit headbox.

The new No. 1 makes 7 machines for Hoberg. The old No. 1 has been out for years.

An Allis-Chalmers streambarker will be in before Jan. 1 to supplement drum barkers. It was needed because peeled wood is becoming more scarce due to woods labor shortage.

## Valley Iron Works Elects Two V-Ps

Paul Boronow has been elected vice president in charge of sales and Don DeNoyer, vice president in charge of engineering, of Valley Iron Works of Appleton, Wis.

At the same time, Talbot "Pete" Peterson, son of President Ray A. Peterson, was elected assistant secretary.

Mr. Boronow, a native of Montreal and a graduate of McGill University, has been with Valley Iron since 1929 and is widely known in the industry as sales manager for the company. Mr. DeNoyer, a U. of Wisconsin grad, was formerly with Beloit Iron Works, joining Valley Iron two years ago.

Young Peterson, who was a captain in the U.S. military service in Europe during the last war, was able to visit some of the California mills recently when he attended a Reserve Officers convention at Long Beach, Calif. Another Valley Iron representative, Harold Norseen, was also on the West Coast visiting the Northwest mills.

# Can Pulp Mills Get Stainless Steel Piping Now?

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# IN WASHINGTON, D. C.

## DEVELOPMENTS AFFECTING PULP AND PAPER

Anyone visiting Washington, D.C., these days in pursuit of a government hearing for pulp and paper manufacturing will find quite a different set-up to that which prevailed in the late years of World War II.

There are not as many permanent government functionaries in the national capital in pulp and paper industry activities. But, in larger numbers, are the group that are now classed as consultants who come and go—on part time service from their positions in industry.

Steel, from stainless and alloys to the mild steels, is the big stumbling block for pulp and paper expansion, as in many industries. In Washington, there is at least a "school of thought" who believe that by summer or, maybe, by spring of 1952, much defense plant expansion will be over and steel shortages will be eased; aluminum may also be at least easier. But not copper.

However, the stepped up aircraft program may depress supply even more, and delay any easing of the situation. A power shortage in various parts of the country may hold back aluminum.

The emphasis in Washington is established to build plant and machine tool capacities—and this goes for pulp and paper, too—to be in readiness for possible full scale war; it is not to amass end products, in most cases.

Vice President Gabriel Ticoulat from Crown Zellerbach, who went to Washington nearly a year ago as head of the pulp, paper and paperboard division of NPA and then became deputy director over this and rubber, chemicals, printing and lumber, too, has been promoted again to head of the International Materials Conference, which administers all materials allotments to foreign countries, including the ECA allotments. Another paper industry man was being sought to step into his shoes in his previous high post. Meanwhile, John Maloney, vice president of Hoberg, who had three years in Washington in World War II, carries on as head of the pulp, paper and paperboard division of NPA.

But now this isn't the only division where mills in this industry must read their cause. Under the Controlled Materials Plan, distribution of steel, copper and aluminum is handled by a General Industrial Equipment Division. In this division, heading up a Pulp and Paper Section for the CMP is Roland Packard, who was with Smith Paper Co., Lee, Mass., for years.

Then, under Mr. Maloney is a Machinery and Facilities Section where mills go who need help for special ratings or delivery time for all kinds of equipment from boilers to machines. J. H. O'Connell, an industry consulting engineer of Washington, D. C., heads this, with aid of W. J. Meany, who was a government man in

Germany and Korea after World War II. Both were with Allan Hyer, now a consultant for Washington, in this same work in World War II.

This section makes its decisions on the determinations of what kinds of paper, and how much, are to be needed. The decisions are final with Mr. Maloney, but with aid of many advisors.

Like all the other industry divisions, the pulp and paper division has its lawyer, John Skillman, attorney with government background, its own labor man, etc. Matt Burns of the AFL is the labor man for this division.

A lot of pulp and paper industry men are moving in temporarily as consultants.

There are the "WOC" consultants . . . "without compensation." They come to Washington when they can—are paid travel and \$15 a day only when they are there. This group may be signed up for six or 12 months consulting duties.

Then there are "WAE" consultants

. . . "when actually employed" basis, who are called in for special work, pay their own fare, but receive \$15 a day or more.

An important assignment now in Washington is that being carried out by Harold Heller, from Kimberly-Clark, who is in charge of chemicals, and therefore helping out in the serious sulfur shortage.

Jamer Ritchie was expected to return to his duties as executive director of the U.S. Pulp Producers Association, after doing important service in the pulp section. He will leave Lou Nicholson, who was head of the District of Columbia Paper Co., in Washington, and Murray Howe, who was with Champion-International at Worcester, Mass., to carry on. This section seeks to watch pulp distribution to see that no mill gets hurt . . . basing needs on high figures for increased tonnage by 1953.

The duties of many others who are serving in Washington already have been explained in these columns.

## HIGH SPEEDS IN SOUTH



K. O. ELDERKIN, Paper Mills Mgr. of Crossett Industries, who is one of Canadians who brought high speed techniques to South.

High speed production is being intensified in the South with much new equipment being designed to assist machines in gaining faster and faster speeds.

At the Crossett Paper Mills of Crossett, Ark., the new Beloit 210 inch Fourdrinier machine which started up only last Jan. 1950 on wrap and bag kraft paper recently attained a record breaking speed of 1,925 f.p.m., which is generally believed the fastest of any machines in the world other than tissue.

This was a short demonstration run on 30 lb. paper. But the machine regularly runs 1700 to 1800 f.p.m. on 25 and 30 lb. wrap and bag paper. It has 34 main dryers, but the equipment principally credited with boosting the speed is a suction transfer arrangement. It is similar to equipment sometimes called a pick-up felt being installed or installed on machines at Franklin, Va., Palatka, Fla., Port Angeles, Wash., Halifax, and on the new Pusey & Jones machine for Brown

Paper Mills at Monroe, La.

Any visitor at the recent meetings in Jacksonville, Fla., or Savannah, Ga., and there were three PULP & PAPER editors at these meetings, could not help being aware of the fact that the South is more speed-minded than ever this year 1951.

And anyone who thinks the Southern engineers and papermakers will not be interested in making any and every quality of paper—providing mass production of the grade is justified—is sadly misinformed. It is probably true the Southern mills will make almost any grade, and that there is almost no grade they could not succeed in making, if volume output is economically sound.

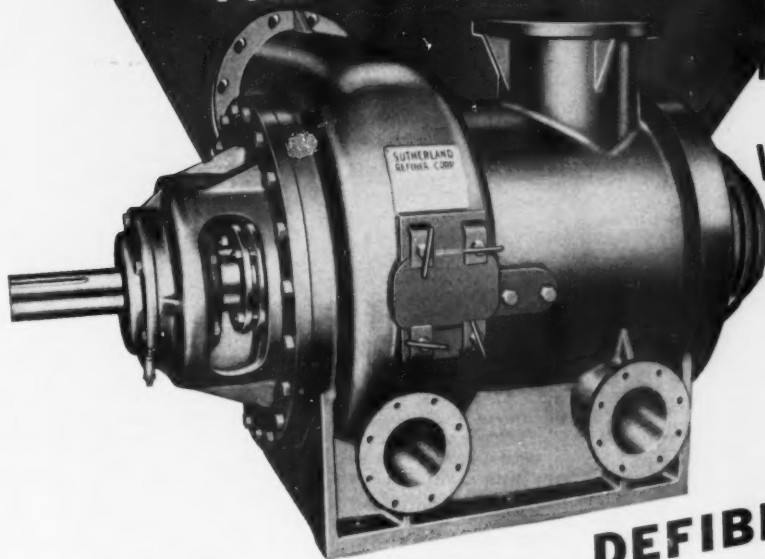
As PULP & PAPER reported a year ago after the Engineers conference at Cincinnati, the big Beloit Buccaneer machine had attained a speed of well over 800 tons a day on liner and is now reported easily running at 840. And the International mill at Georgetown S.C., still the biggest in the world, is rumored to have even topped that figure on liner—going over 900. Union Bag's sixth Pusey & Jones machine, a 236 in. bard machine, will put that mill ahead of Georgetown with over 2,000 tons a day production.

The suction transfer arrangement at Crossett is an arrangement that picks the sheet off the bare wire by suction. It is done this way, instead of blowing it off, and eliminates the draw. It serves speed as most breaks normally appear at the couch roll. It is reported that Millsbaugh patents (British) of such an arrangement expired about a year ago.



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AND  
removes tramp metal**

**for  
BROWN STOCK  
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# COMMENTS ON HOLLIS'S ARTICLE

## On Stock Formation on Cylinders

We are continuing to receive comments and replies to the provocative questionnaire on the subject of stock formation on cylinders which we published in our September issue, written by R. Frank Hollis, general superintendent, Alton Box Board Co., Alton, Ill. We will continue to publish them as they come in. Here is one by Jesse A. Jackson, an engineer with the St. Regis operations at Pensacola, Fla.:

"The article by R. Frank Hollis in your September issue was of particular interest to me since I have been studying an ancient counterflow vat in an extra-curricular sort of way in the hopes of being able to improve its performance on milk bottle stock. Not being weighted down with tradition in these matters, I have worked out my own methods of analysis, and am now awaiting the opinions of the experts, which brings me to a lull in these activities. It occurred to me that it might be an interesting exercise to write out answers to such of Mr. Hollis' questions as lay within the range of my experience. I was, no doubt, encouraged in this by the informal tone of his article, and his cordial smile in the picture on page 36. To persons well versed in the art, my answers may be of only passing interest, however, you asked for it, so here they are (referring by number to the questions—beginning on page 36, Sept. issue):

"3a—Mould diameter should be as large as you are willing to pay for without going too far out of the range of past experience. The question of how designers happened to use 6-inch increments for mould diameters is purely a philosophical one, however, it is interesting to note that a 6-inch increment is a 16.67 per cent increase over a 36-inch diameter, whereas it is only a 9.07 per cent increase over a 66-inch diameter. The choice of increments this large in the early days of smaller moulds probably reflects the inexact nature of the science, coupled with the fact that designers were usually asked to cover as wide a range of products as possible. As we come to the present, with its higher speeds, bigger production, and more specialization of product, we find the increments appearing to become relatively smaller. Perhaps, some day, our science will become so exact that the designer can determine his mould diameter to the nearest inch!

"3b—The five-cylinder 72-inch diameter mould machine is preferable to any machine employing a greater number of cylinders to make the same board.

"3c—Question (b) should certainly not be answered without considering first cost and operating cost as well as they can be determined. In the past, designers have undoubtedly been aware of the nature of their science and of the lack of published information on the subject, however, each has probably started with a fair idea of what diameter would best suit the requirements, and has only departed from

it if a comparative study showed that some other diameter was better, particularly from the standpoint of costs. There is no reason to suspect that blind adherence to a certain diameter has often been permitted to ride rough-shod over all other considerations. Given a certain kind, quality and rate of production, the designer must start with a diameter of some sort, even though he undoubtedly should start, if he has time, with two or more for simultaneous or successive comparisons in the early stages of his job.

"4a—The contour of the vat circle space should not be uniform around the mould, but should be varied to give the most desirable velocity at every point.

"4b—Same answer as 4a above. The term "eccentricity" usually implies two circles whose centers do not coincide. The use of arcs of circles suits the mechanical draftsman and the shop layout man very well, and we should therefore use them wherever practical.

"4c—Same answer as 4b above. An inverted "ogive" seems quite logical, particularly where the sand pit usually will make an even more abrupt change than would be made by the ogive point alone.

"4d—Variable clearance will always be attractive. As for dampers or adjustable vanes, someone should really investigate them, experiment with models, and publish the results.

"4e—The general shape of the contour should probably be about the same for slow-stock slow-speed operation as compared to free-stock high-speed, outside of the obvious conclusion that clearances should generally be greater for the higher outputs. The differences would be appreciable and can be determined from cut and try comparison of assumed circles for each case, based on velocities calculated by a method of successive approximations, taking into account the effect of velocity head on the flow through the wire. In other words, the contour should be worked out carefully from hydraulic theory for any particular operating conditions desired.

"4f—The contours of counter flow and parallel flow vats would be different for the same production since the velocity effects would be entirely changed, due to the fact that velocity head plays a decisive part in formation.

"4g—It is certainly true that, in most cases, elimination of the sand pit will have to be accompanied by some other means of removing undesirable materials from the stock. Perhaps, if designers would cut down the size of the sand pit and try to streamline it somewhat, we would eventually see our way clear to eliminate it entirely. No doubt the first sand pit was put in because operators found that here was a place where foreign particles accumulated. It occurs to the writer that, instead of a pit, a slot might be used and a small amount of stock bled off, to be riffled, perhaps, and put back in the

chest. Furthermore, this might be a good way to get, in a counterflow vat, some of the effect of the overflow operation of a parallel flow vat; something we might call "underflow" operation. The writer has never heard of such a thing being done, and therefore claims originality. (Ed's. note—There are vats which do incorporate this feature).

"6a—The writer has also wondered what was in the mind of the first designer who used the "herd of elk" shape for his cylinder mould spokes. Certainly the straight spoke will cause more stirring and churning of the surface of the liquid than would a spiral, but a simple spiral would lack stiffness. Perhaps the next step was a multiplicity of small thin spirals, curving both ways for added stiffness. And then somebody else, just to be different, concocted the collection of small circles which gives such an odd appearance, but which seems to be simpler for the patternmaker, and probably has low drag compared to other, equally stiff, arrangements.

"6b—For any spoke, the cross-section should certainly be an ellipse, or even an airfoil shape. Perhaps a thorough study in the light of present day high speeds, would yield a logical set of spirals, whose cross-sections would be thin airfoils with chord enough to give the required stiffness, and set at a slight pitch angle so as to assist the flow of stock to the end ports.

"6c—With the spokeless or spiderless type of mold, the mechanical strength must be supplied in some other manner to support the wire. Presuming this could be done in some way without detriment to the flow through the wire, the end-support problem could probably be licked through the use of some of the newer materials, such as has been done, for example, with the cutless rubber bearings for marine propeller shafts.

"6d—Actually, it appears that the so-called "pump-up" on one side and "draw-down" on the opposite side should have very little effect, if any, on steady operation. Practically no formation occurs at the "pump-up" region, for either counterflow or parallel-flow vats, so that the head at the "draw-down" region is your real effective head. The question of whether or not to have spokes should be decided on more decisive grounds.

"7a—Theoretically, the mould bars should have an air-foil section, although practically the additional expense of having them drawn or milled to such a shape would very likely lead us to use a flat bar with rounded edges.

"7b—Non-circular mould bars should be inclined at an angle best suited to the mean vectorial resultant velocity just inside the wire for the speed of operation at which most of your output will be run. A careful study of this question will probably lean heavily on the highly advanced



## Scrolls for the Emperor

The art of making paper from fibrous matter has been traced back some 2,000 years to the ancient Chinese. Scholars credit Ts'ai Lun with the making of the first true paper during the reign of the Emperor Ho Ti from the bark of trees, hemp and discarded cloth. In 1873 the Swedish engineer, C. D. Ekman, perfected a process for making high grade paper pulp by cooking wood chips with calcium bisulphite.



Today the pulp and paper industry is one of the major consumers of Sulphur, taking about 400,000 long tons annually. Compounds of Sulphur are indispensable reagents in the two major cooking processes for converting wood to pulp. From the pulp come newspapers, magazines, books, boxes, wrappings and an almost endless list of other paper products.

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art of marine propeller design.

"7c—The mould should be made with as large a number of small bars as will be consistent with the necessity for mechanical strength and for avoidance of having the space between bars act as a narrow nozzle. The smallest bars that are practical will thus avoid as much as possible the intermittent shock or splash effects where the bars enter and leave the surface inside the mould.

"7d—Material for mould bars should preferably be stainless or monel, but the exact composition should be worked out with the advice of the chemist and the supplier or manufacturer.

"The above are presented humbly by one who makes no pretense of speaking with authority in these matters. You are to be commended, however, for attempting to stimulate discussion in a field where the experts have sometimes been confounded. An excellent example is presented by Mr. Hollis himself, since the 600 f.p.m. operation described in his article is, according to some authorities, 50 per cent above the impossible. With best wishes for the success of your questionnaire. Signed, Jesse A. Jackson."

### Another Comment On Hollis Article

A. E. Drew, chief engineer of Southland Paper Mills, Lufkin, Texas, comments:

"I was very much interested in Mr. Hollis' questionnaire on 'Stock Formation on Cylinders' published in your September issue. I have had the pleasure of meeting and talking with Mr. Hollis and strongly suspect that if he does not know the answer to a lot of the questions posed, he does at least have well grounded opinions regarding a number of them. However, inasmuch as comments have been invited I have one or two that I would like to make.

"Having been in paper mills for the past 25 years I have seen many theoretical solutions to problems give amazingly poor results when put into actual practice. While I have opinions regarding a number of the questions, Item 5d is the only one to which I would care to give a definite answer. On this I can say that actual experience backs up the theory that fan pump suction ports and overflows should be located both at the front and back of the machine. Furthermore, the fan pump piping from the suction ports should be so designed that the friction loss for any given volume will be the same from either port to the pump suction.

"The theory back of this is that in order for water to flow there must be a difference in level. If there were not a difference in level between the inside and outside of the cylinder, no water would flow through the facing wire and no sheet would be formed. If you do not have the same difference in level between the outside and inside of the cylinder across the entire face water will pass through the face at varying rates depending on the difference in level. This results in a thicker sheet being formed at the point where the level differential is greatest.

"To take a concrete example, I know of a 124 in. machine that consistently ran

heavy at the back. A check showed practically all of the water being withdrawn from the back and the inside water level  $\frac{3}{4}$  in. higher at the front than at the back. While it could not be computed accurately it was estimated that by drawing half the water off the front and half off the back, the head at the center required to force the water to each end would be less than  $\frac{1}{8}$  in. Accordingly, one cylinder was equipped with fan pump suctions and overflows both front and back.

"With this arrangement it was quite easy to keep the level on the inside the same in front and back. Operation of this one cylinder was so much better than the same alterations were made on the rest of the cylinders, after which the operators had no trouble levelling the sheet.

"In connection with levelling the sheet it is just as important that the stock level outside of the cylinder be the same across the entire face. This brings up the question of stock inlets and their design. There are many different types yet I could find no questions on this subject in the article.

"Referring to Item 5c the term 'suction' should be defined in order to clarify the question. If, as used, it means that there is a negative pressure on the suction side of the pump the answer can be obtained for any particular installation by taking gauge readings. In any event I do not get the point of the question as it is not unusual for pumps to operate with a negative suction pressure.

If it is at all possible, I would greatly appreciate having copies of the various comments you have no doubt received in

response to Mr. Hollis' article. Signed, A. E. Drew, Chief Engineer." (Ed's. note—All comments on Mr. Hollis' article are being published.)

### White Joins Institute

Westbrook Steele, president of The Institute of Paper Chemistry, has announced appointment of Dr. Elwood V. White as a research associate and group leader in the field of carbohydrate chemistry.



HENRY B. PRATT, JR. (left), appointed assistant to H. D. Cavin, Chief Engineer, Ketchikan Pulp and Paper Co. Mr. Pratt formerly was Construction Engineer for Union Bag and Paper Corp. at Savannah, Georgia. In 1939 he was assistant to Mr. Cavin at the Hollingsworth & Whitney mill, Mobile, Ala. ALBERT H. ADAMS (right), South Portland, Maine, has recently become the representative of The Bauer Bros. Co., Springfield, Ohio, for the New England territory. He is a graduate of the University of Maine. From 1941 until navy service in World War II, Mr. Adams worked as technical assistant to the kraft superintendent, West Virginia Pulp & Paper Co., Covington, Va. Since then he was chemist, Congoleum Nairn, Inc., Cedarhurst, Md.

## THE FIRST MORDEN SLUSH-MAKER

The first Slush-Maker, new stock preparation equipment by the Morden Machines Co., of Portland, Ore., has been installed in Rhinelander Paper Co., where it was seen in operation by PULP & PAPER. At the Rhinelander, Wis., mill it breaks up broke, trimmings and slabs into a slush condition at the rate of 1500 lbs. in 20 minutes.

It accomplishes its task as well with kraft pulp as dry as hardboard which is shipped from Canada and Sweden to the

Wisconsin mill in as dry condition as possible.

The whole unit is stainless steel and is presently driven by a 150 hp. motor but Rhinelander engineers contemplate changing to 125 hp.

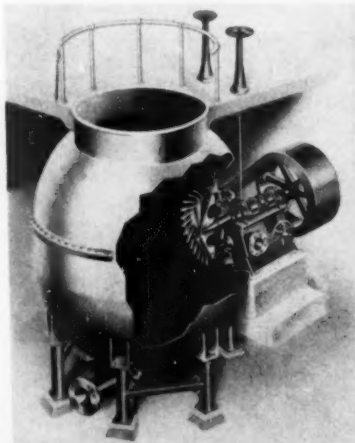
It was hooked into three chests. One was for broke for No. 1 Fourdrinier glassine machine, one for broke for No. 2 Fourdrinier glassine machine and one for the purchased kraft pulp for both machines.

The feed or operating portion of the equipment is on one floor with the chest and motor below.

The clearance between rotor and attritioning ring affected the defibering action. Initial defibrillation was increased with the rotor out from the attritioning ring, but the remaining smaller specks were removed better with the rotor set up onto the attritioning ring.

Wet strength broke has been successfully defibered by use of high temperature and low pH. At a temperature of 176° to 190° F. and a pH of 3.7, the stock was about 90 per cent defibered at the end of 25 minutes and completely defibered at 30 minutes.

In general, no operation problems have arisen. The "Slush-Maker" is evidently quite capable of handling any type of pulping problem that may arise and promises to solve the problem of the disposition of wet strength broke.







The Midwest-Smith Beater is a radically new development in equipment for refining paper making fibre by a continuous process and under very close automatic control.

The particular function of this beater is to provide a means whereby any kind of fibre may be treated continuously to develop the maximum desirable mullen, tensile and tear characteristics.

It is designed for such extreme flexibility that it will produce a fibre for maximum density and finish, such as condenser or glassine papers, or for maximum porosity as required in cement bag grades.

A single Midwest-Smith Beater will process up to sixty tons or more of pulp per day, at a phenomenal saving in power per ton of stock as compared to any other type of beater, jordan, or disc refiner.

The roll is mounted in a fixed position, in anti-friction bearings, enclosed in a stainless steel housing, containing three very wide bedplates, each of which is automatically adjusted to the roll. It has enormous brushing capacity, which is augmented by the method whereby the stock is caused to travel over and over, in a spiral path, across the face of the roll and under the bedplates, eight or more times, before it is discharged at the opposite end, completely processed and ready for the paper machine.

In this beater, there is no metal to metal contact, but rather a true rubbing or brushing of the fibres, repeated over and over until the stock has been properly refined. It is practically impossible to dam-

age the fibre, whether it be soda, sulphite, kraft or semi-chemical. Furthermore, there is no destruction of the brushing surfaces on roll or bedplates and consequently no maintenance over many months of continuous service.

As shown in the illustration, the Midwest-Smith Beater is shipped to the mill completely assembled and ready for installation.

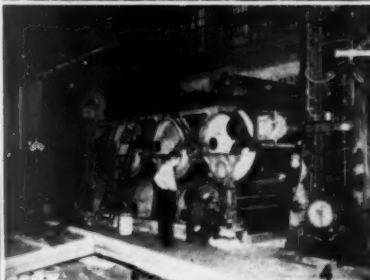
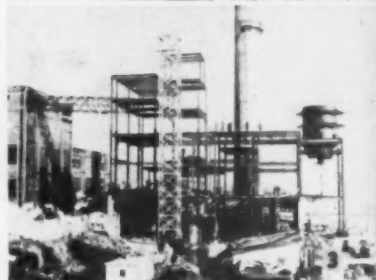
This is a precision built machine designed to provide extremely close adjustment of the brushing surfaces between roll and bedplates, and represents the first successful method so far developed for automatically maintaining such adjustment.

This is the machine you have wanted for many years. At your request we will send you a profusely illustrated booklet describing in detail the function and operations of this outstanding machine.

**Midwest-Fulton**

# CORNWALL EXPANDS

## NEW DOMINION MACHINE - - 144 IN.



1. General view of mill building. 2. Addition to machine building for new Dominion Engineering machine. 3. Combustion steam plant under construction. 4. Rebuilding machine.

A modernization and expansion program which actually was initiated in 1947 and will be completed in 1952 for the Cornwall division of Howard Smith Paper Mills at Cornwall, Ont., is featured by a new paper machine, to be operated alongside No. 5 machine.

The new machine, trim 144 inches and maximum speed of 1200 f.p.m., is supplied by Dominion Engineering Works and Canadian Vickers. The wet end is Sandy-Hill design manufactured by Canadian Vickers with a removable Fourdrinier and an 85 x 162 foot inch wire.

The press section with two suction presses and one smoothing press, and the drying sections with 35 five-foot dryers and eight foot felts are designed and manufactured by Dominion Engineering Works, also supplier of the size press and calender stack. Grades of paper on this machine include sulfite bonds and ledgers, duplicating papers, book, litho and offset papers.

Installation of the new machine involved relocation of some of the equipment now occupying available space. These include a Ross cycle paper conditioner, size and alum preparation equipment, clay storage, handling and mixing facilities, beaters and broke pulpers, as well as the stock preparation for one existing machine.

However, relocation has become a part of the routine at Cornwall as a result of

the extensive changes that have been made. The equipment to be moved from the area to be devoted to the new machine will go to a new beater room added to the new machine rooms, and the new stock preparation systems for Machines Nos. 5 and 1 provide a continuous refining system including Hydrapulpers, Morden Stock-Makers and Sutherland refiners.

Three additional digesters are part of the 1951 program, bringing the total to six, and to provide the needed wood supplies a new Ingersoll-Rand "weldrum" barker will operate in conjunction with Carthage chipper. Tyoc chip screens, a new chip storage and chip conveyor to the soda mill.

The increased digester capacity requires extensive additions to the liquor and recovery systems, and to bleach this pulp a newly designed bleach plant with a capacity of at least 250 tons. There are four bleaching stages with Kamytowers and Sherbrooke washers.

Important improvements have already been carried out at Cornwall. Provision was made for additional pumphouse capacity and power plant. The pulp mill installations included two 8 x 12 Sherbrooke washers, a Tomlinson B & W recovery furnace and a seven-stage Swenson-Nyman black liquor evaporator. This not only solved the chemical recovery problem to a large extent but provided an additional 50,000 pounds of steam per hour,

while improving facilities for recovery of lignin from soda mill black liquor. A new sulfur melter was installed in the sulfite plant and the combustion chambers were completely redesigned and installed.

The new steam plant will have a Combustion Engineering pulverized fuel unit with a capacity of 175,000 pounds per hour.

In the paper mill No. 5 machine trimming 140 inches was completely modernized and the wet end lengthened, with a new Sandy Hill Bertram flow distributor and a head box with Neilson slice, both served by two new 3A Bird screens. To speed the drying process a Ross-Grewin hot air system was installed and a Ross-Briner economizer replaced an older unit. Ross-Grewin air systems are now operating on No. 2 machine and on the dry end of No. 3 machine.

The new machine has tile dump chest for the pulper, machine chest, broke chest and white water chest, all by Canadian Stebbins, equipped with William Kennedy & Sons propeller agitators.

One of the company's recent purchases for the Cornwall division was a Curlator.

A new Dorr causticizing system is to be installed.

If the past is any guide, the present program is only a preview of the future, because the Cornwall division has seen many periods of growth since the mill as originally constituted first went into production in the early 1880's. The plant has many "firsts" to its credit. It made the first Ritter-Kellner sulfite pulp in Canada in 1888. It erected the first modern soda pulp mill in Canada, and in more recent years was the first to establish a vanillin plant and lignin plant.

The Cornwall division is becoming increasingly important among the various units of the Howard Smith "empire," which embraces mills at Beauharnois and Crabtree mills, with subsidiary operations at Windsor Mills, Que., and Georgetown and Todmorden, near Toronto, in Ontario.

H. E. Mason is manager at Cornwall, with C. N. Candee assistant manager, and W. P. Nesbitt general superintendent.

F. P. Bjornlund is pulp production manager and A. M. Irvine office manager, with R. M. Armstrong superintendent in charge of construction.

Chairman of the board of Howard Smith Paper Mills is Harold Crabtree; president, E. Howard Smith; executive vice president, E. K. Robinson and vice president, George H. Tomlinson. Secretary-treasurer is Kenneth G. Pendek.

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# Personals

## SOUTHERN NOTES

**DR. REAVIS C. SPROULL**, formerly identified with the Southern Research Institute, Birmingham, Ala., has been named director of technical work at Herty Laboratory, Savannah, Ga.

**J. WALTER MYERS, JR.**, has been named executive secretary of the Forest Farmers Ass'n., Valdosta, Ga., succeeding Paul W. Schoen. Graduate from Louisiana State University, Mr. Myers has been with Illinois Central railroad as a forester.

**W. H. MILLER** has been named assistant to President James L. Coker, of Sonoco Products Co., Hartsville, S.C.

**CARROLL SEELEY** has been named chief industrial engineer for Gulf States Paper Corporation, Tuscaloosa, Ala.

**TOP MANAGEMENT ASSIGNMENTS** for the operations at Pisgah Forest, N.C., were announced by Olin Industries. "Olin Cellophane Division" there will have Norman H. Collisson, Ecusta vice president, as general manager; Milton L. Herzog, production manager; James L. Spencer, sales manager; E. Hartshorne, research and development manager; E. L. Lynn, quality control manager. Lawrence F. Dixon will serve as general manager of the Ecusta Paper Division; Lee M. Bauer, production manager; R. E. Matthews, sales manager; Milton O. Schur, research and development manager; and R. L. Hooper, quality control manager. Mr. Hanes will head up the organization as administrator of both divisions, with J. K. Pepper to assist him.

**THEA C. BANNISTER** has been named pulp mill superintendent at Hollingsworth & Whitney mill at Mobile, Ala. He formerly was assistant superintendent. Other changes include Charles D. Ingram, named technical superintendent, elevated from chief chemist; Forrest B. Smith to general superintendent of utilities and maintenance; Ogden W. Jervis, to Mr. Smith's post as power superintendent; William J. Allen to Mr. Jervis' place as assistant power plant engineer. Mr. Bannister fills the pulp superintendent's place formerly held by R. F. Cuyle; and Mr. Ingram succeeds E. E. Archibald, Jr.

**WALTER K. GRAHAM** formerly of the A. O. Smith Corporation Sales Office in Atlanta, Georgia served a six month's period with the Petroleum Administration for Defense in Washington and now is back in the A. O. Smith organization.

## Root in South for Black-Clawson Divisions

Edward M. Root, former manager of the Dilts division of the Black-Clawson companies, is now the new Southern Sales manager for all divisions of that company with headquarters at Atlanta, Ga. They are in his home, 937 Coventry Road, Decatur, Ga., an Atlanta suburb, pending his opening an Atlanta office.



**ROBERT NIVISON JR.**, (left), Sales Manager, Engineering Department, Improved Paper Machinery Co., who talked on capacity of thickeners at the Savannah Engineering Conference and **JAMES W. MARCILE** (right), IMPCO's regional representative in the South who makes headquarters at Pensacola, Florida.



**MURPHY OWEN**, who was named Pulp Mill Superintendent at Gulf States Paper Corp., Tuscaloosa, Ala. He succeeded Robert L. Yoder, who became Personnel manager.

**DAN BITTNER** the son of Sam L. Bittner, former Purchasing Agent of the Southern Kraft Division of International Paper Company in Mobile, Alabama, has been called into the Navy as an officer and is stationed at the Great Lakes Naval Station on Lake Michigan. Dan and his brother, Bill, joined their father recently — in recent years in establishing the firm, Sam L. Bittner & Sons, of Mobile, manufacturers representatives to the pulp and paper industry.

**WILLIAM H. (BILL) JOHNSTON** has announced removal of F. N. Johnston Co. to a new location at 236 Humble Oil building, 909 So. Jefferson Davis Parkway, New Orleans 15. He formerly was in the American Bank building. The firm represents Dodge Mfg. Co., Philadelphia Gear Works, Reliance Electric & Eng. Co., Logan Company Service Caster & Truck Corp., and Union Chain & Mfg. Co. **GUY H. WESLEY**, manager of the woodlands division of National Container Corp., has been named a member of the Florida State Board of Forestry by Governor Warren.

## New Chairmen Elected At Jacksonville, Fla.

At their joint meeting in Jacksonville, Fla., in early October, John J. Thompson, pulp mill superintendent of the Southland Paper Mills, was elected chairman of the Southern Supts. Division and Cecil B. Curry, pulp superintendent at National Container, Big Island, Va., was chosen chairman of the Southeastern Division.

**LUD KING** has been named division forester for Champion Paper & Fibre Co., at Huntsville, Texas.

**JAMES L. MADDEN**, president of Hollingsworth & Whitney Co., announces that the board has elected Dennis E. Cousins of Mobile, Ala., a director of the Company. He succeeds Louis Oakes of Greenville, Maine. Mr. Cousins was mill manager at Mobile, Alabama from 1940, and was elected a vice president in 1950.

## Georgia Mills Expand

Expansion of Austell Box Board Corp., at Austell, Ga., will be effected under an agreement reached with Atlanta Paper Co., to provide materials needed by the latter for its jobbing business. The latter had announced its intentions to build a mill but subsequently arrived at an agreement whereby Austell would produce the materials. Austell has purchased a paper machine formerly in Bryant Paper Co. from Bagley & Sewall.

## New South Process?

Further newsprint production was accorded its place in the Southern Newspaper Publishers' Association meeting in Little Rock, Ark., with much said of possibility of a new mill in Texas to utilize a new de-inking process for newspapers.

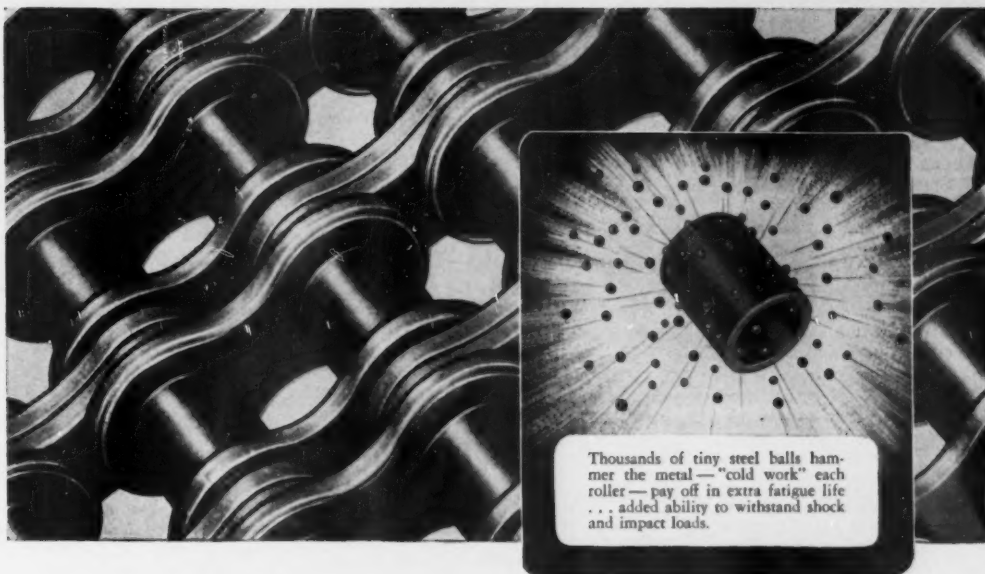
## Louisiana Mill

Tax exemption for a ten year period has been extended by the Louisiana Board of Commerce and Industry to cover a \$750,000 improvement program doubling the capacity of Bird & Son, Inc., felt mill at Shreveport, La. Present mill capacity is 60 tons. Rust Engineering Co. has the contract.



**MARTIN MORTENSON** (at right), recently appointed new Plant Engineer at Kimberly-Clark Corp.'s fast growing paper mill at Memphis, Tenn., is shown here greeting two other new members of the Memphis staff—**JOHN HOLLEY** (Auburn grad), one of Design Engineers, and **ROBERT WICK** (Univ. of Minnesota), of Maintenance Engineers. "Mort" Mortenson, 20 years with K-C, is a grad of U. of Wisconsin, was formerly at Neenah, Wis., and Niagara Falls, N. Y., mills.





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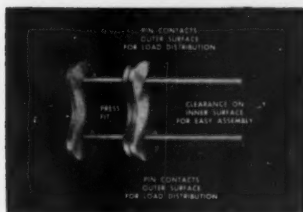
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## Midwest Notes

**MARGARET DOZIER**, widow of Lewis Dozier, longtime Paper Supt. at Rhinelander Paper Co., was being married as we went to press to an old family friend, **TED WARDWELL**, former city manager in north Wisconsin and now city manager of Hinsdale, Ill.

**BOB HARPER**, administrative engineer at Rhinelander, arranged to bring a U. S. Marine Band from Washington, D.C., to Rhinelander for entertainment of school kids from 50 miles around, and others. Incidentally, Bob was born and schooled in Nebraska.

**JAMES DE YOUNG**, nephew of the DeJonge sisters of Thilmany and Bergstrom mills, is working in the production department of Container Corp. of America at Wabash, Indiana.

**LYNVILLE A. CARPENTER**, vice president and production manager of Bergstrom Paper Co., Menasha, Wis., died suddenly Sept. 8. He was only 44. Mr. Carpenter had been at Bergstrom since 1935. He had formerly been at Oxford in Rumford, Me., and with the Forest Products Lab at Madison, Wis.

**G. J. SCHUELKE**, field engineer for Chain Belt Co., of Milwaukee, received an emergency call from his wife while at the Northwest Supts. meeting, saying to hurry home as Uncle Sam wanted him. He was a radar specialist in reserve air corps and returned to Milwaukee for physical exam.

**JAMES R. ANDERSON**, of Milan, Ohio, near Sandusky, covers the Midwest for Clark & Vicario and Nash Engineering in a Piper Super Cruiser. He landed his ship at the Big Bear Airport Resort to attend the Northwestern Supts. convention.

**ARTHUR T. YODER**, who was 68 last May 1, has been 26 years at the Ontonagon, Mich., mill of National Container of Michigan where he is paper mill supt. His father, Isaac, who is still living at 90, owned and operated a small bogus wrap mill at Bartow, Penn., which is now idle. Arthur Yoder has been at Mosinee, Wis., Groveton, N.H., Williamsburg, West Va., and Sartell, Minn., mills in his early career. A water wheel drove machine and drove beaters at his father's mill.

**HAROLD HUSEBY**, who was in charge of training in the pulp manufacturing department of The Northwest Paper Co., has been appointed new bleach plant superintendent at the Cloquet, Minn., mill, succeeding E. L. Crowley, who joined Inflico, Inc., Chicago. Mr. Huseby is a native of Cloquet.

**CLETUS COUNTER**, assistant to Paper Mill Supt. Leonard Parkinson at Rhinelander Paper Co., was called to Waco, Tex., as captain and special radar man in Army Air Corps. **JAMES S. CAMPBELL**, also at Rhinelander, as assistant director of

public relations under Louis McNamara, was also called up—to Bayonne, N.J., as ensign in navy supply.

**LOREN FORMAN**, formerly of the Institute of Paper Chemistry staff in Appleton, Wis., has joined Scott Paper Co. as a pulp specialist.

**LOUIS C. MEYERS**, former superintendent Nekoosa kraft paper mill for Nekoosa-Edwards Paper Co., who retired a year ago, is doing consulting work with **CAP YOUNGCHILD** of Appleton. Mr. Meyers, who lives on Wisconsin River Ave., in Port Edwards, Wis., is a brother of Ed Meyers at Peshtigo, Wis., mill.

**ROBERT W. MORTENSEN** is chief engineer at Wausau Paper Mills in Brokaw, Wis. He was mechanical engineer for years at Consolidated in Wisconsin Rapids.

**STANTON MEAD**, president of Consolidated; **EARL M. COURT**, exec. assistant in that company, and **BILL THIELE**, vice president of Consolidated Water Power Co., a subsidiary, are members of a ten-man City Point Gun Club which has a 3,000 acre hunting ground west of the Rapids.

**NICK WALLACE**, of Kalamazoo, Time-Life executive and **TED OLSON**, Rapids manufacturer, are other members.

**JACK BEIRWALTERS**, former salesman and public relations man at Watervliet Paper Co., Watervliet, Mich., has accepted a position as manager of Carpenter Paper Co., 750 Pelham Blvd., St. Paul, Minn.

**JAMES REYNOLDS** heads the pulp and paper section of Dow Chemical Co.'s technical service and development at Midland, Mich. He moved into that spot some time ago when **RICHARD M. UPRIGHT**, who was well known in the industry, went into organic chemicals sales.

**FLOYD J. GUNN** is manager of the coatings section of plastic sales in Dow Chemical at Midland, Mich., and **NORM PETERSON** has charge of coatings technical service, both key jobs affecting the pulp and paper field in view of Dow development of new paper coatings. **LEE CLACK** in coatings service, works closely with the mills.

**RICHARD DOZIER**, son of the late Lewis Dozier of Rhinelander, is now assistant superintendent of the converting division at Sutherland Paper Co.

**HOKE P. MARTIN**, who moved to (Parchment) Kalamazoo in April from Freeman, Ont., to be District Manager for Paper Makers Chemicals of Hercules Powder Co., there, acquired a new home there at Edgewood Place. His wife and son, "Pep," 13, and Hoke moved in Aug. 1. **BOB HOUSTON**, who is manager of public and industrial relations for KVP, at Parchment, is a former all-star Big Ten football linesman.

**JAMES P. NORTH**, President of Green Bay Foundry & Machine Works, Green Bay, Wisconsin, died September 7th.

## Crowley from Northwest Joins Inflico Inc.

Ed L. Crowley, former superintendent

of the bleach plant at The Northwest Paper Co., Cloquet, Minn., where he had been associated nine years, resigned from that company to take the position of assistant to James M. Kahn, manager of the pulp and paper division of Inflico, Inc., engineers of water treatment plants. With Mr. Kahn, Mr. Crowley will make headquarters at 325 West 25th Place, Chicago.

Born at Storm Lake, Iowa, he graduated from Iowa State College in 1936. He was with Champion Paper & Fibre Co., in Houston, Tex., before joining Northwest.

## Neenah Paper Co. Elects Leo Schubart

Leo O. Schubart has been elected Vice President and Secretary of the Neenah Paper Co. of Neenah, Wis., according to D. K. Brown, president.

Donald H. Severson was elected treasurer, and Dan A. Hardt was elected to the board of directors. James C. Kimberly, chairman of the board since 1940, has resigned and John R. Kimberly was elected to replace him. The board now consists of Mr. Brown, Dan A. Hardt, John R. Kimberly, Mr. Schubart, Donald H. Severson, I. J. Stafford and Kimberly Stuart.

**LESTER J. (Lefty) SMITH**, in Kalamazoo recently from Gould Paper Co. in Lyons Falls, N.Y., where he is manager, revealed that several weeks ago he beat his dad, Paul Smith, at golf for the first time in his life. Paul Smith is retired superintendent and consultant at Blandin Paper Co. Lefty's brother Red is manager of the Milwaukee Brewers ball team and brother Ray is a forester for The Northwest Paper Co.

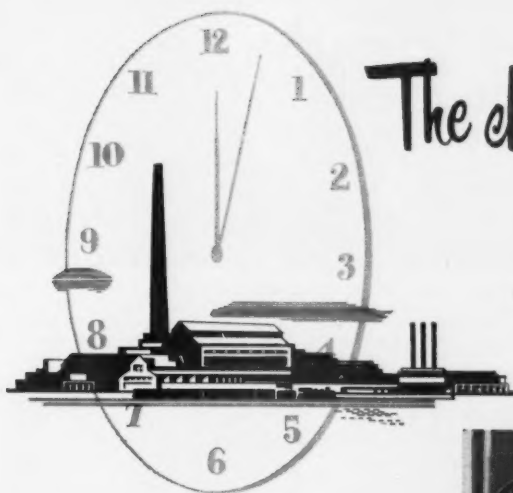
**ROBERT E. KISSEL** General Superintendent at Hoberg Paper Mills, Green Bay, Wisconsin and Ted Ewing, former owner of the Oconto Falls Paper Mill in Wisconsin which he sold to Scott, recently sailed Mr. Ewing's boat over a weekend from Port Washington to Sturgeon Bay.

**RUTH DAWES** who has long been the receptionist at Appleton Woolen Mills in Appleton, Wisconsin, recently went to the Pacific Coast on a vacation. She has long been a reader in the Womens' Business and Professional Club in Appleton.

**JOHN B. MADDEN** has been appointed hydraulic sales manager for the North Central District of A. O. Smith Corp., with offices at 310 S. Michigan Ave., Chicago. Mr. Madden, former product supervisor, originally operated hydraulic sales from A. O. Smith's Houston plant.

**CLARENCE PAXTON**, general superintendent of coaters and reels at the Hamilton, O., mill of Champion Paper & Fibre, and his wife, recently celebrated their 50th anniversary with four generations of their family and received numerous gifts from his associates at the mill.

**J. E. "DUSTY" RHOADES**, Ohio-born, who started in the Hamilton mill standards department, has been appointed manager of Champion Paper & Fibre's clay plant at Sandersville, Ga. He has been assistant manager since 1943.



*The clock never stops on this*

## **DE LAVAL GEARED TURBINE**

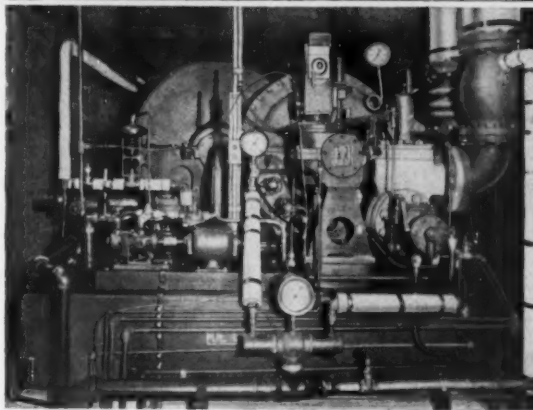
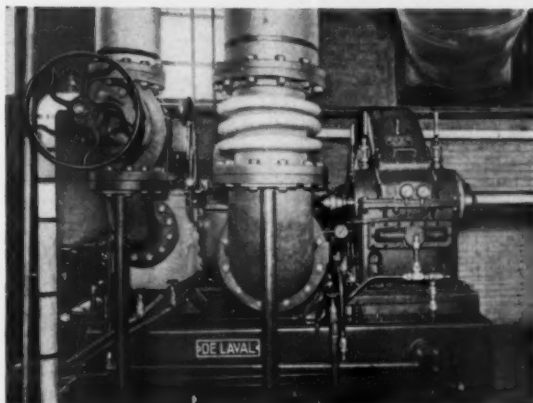
**AT FINCH, PRUYN**

Round-the-clock papermaking requires peak turbine dependability. That's why Finch, Pruyn selected this 400 hp geared De Laval multistage turbine to drive their new 122-inch Pusey and Jones Fourdrinier machine.

With a maximum speed change of 7.5 to 1, this De Laval turbine provides a wide range variable speed drive. It offers a maximum capacity rating of 525 bhp at 4945 rpm with a gear reduction to 480 rpm. Minimum operating turbine speeds go as low as 659 rpm geared to 64 rpm.

Anticipated future operation of this paper machine at 1200 feet per minute will utilize the turbine's top speeds. Currently the machine is producing at the rate of 1,000 feet per minute, requiring 375 hp at 4130 rpm geared to 400 rpm.

De Laval engineers are old hands at making turbines that stay on the job year after year. Investigate the De Laval line now. Best way to start is with Bulletin 4200-A. Write for your copy today.



**50<sup>th</sup>**  
**DE LAVAL** *Steam Turbines*  
*Anniversary*

**DE LAVAL STEAM TURBINE COMPANY, TRENTON 2, NEW JERSEY**

November 1951

DL-115

79

# Personals

## CANADIAN NOTES

D. A. (DON) LIVINGSTON, for several years sales engineer with Esco, Ltd., Vancouver, B. C., specializing in application of stainless steel in British Columbia pulp and paper mills, has been promoted to assistant manager according to announcement of B. P. (Ben) K. NYLINE, vice-president and general manager. JOHN W. GILMOUR, former forester for Anglo-Canadian Pulp and Paper Mills and H. R. MacMillan Export Co., and now a forest consultant in Toronto, spoke recently in Vancouver on Quebec forestry problems with special reference to the pulp and paper industry.

J. B. JONES has been named assistant manager of manufacturing of the Ontario Paper Co., Thorold, Ont.

DR. N. I. STONE and L. P. BEGER, New York, and ROY EMERY, Toronto, addressed a recent meeting of the Red Deer, Alberta, Board of Trade and described the \$20 million pulp mill which is proposed for that region.

LEE TRENHOLM, who has been advertising and public relations manager of Provincial Paper Ltd., has been made manager of the same department for the parent company, Abitibi Power & Paper Co., as well.

H. GREGORY, of Hitchins, Jervis & Partners, consulting engineers of London, has arrived in Auckland, New Zealand, to advise on design of the kraft paper mill of N. Z. Forest Products Ltd. at Kinleith. He will be closely associated with H. Kilgour, the company's superintendent engineer, and J. T. CHRISTIANSEN, pulp and paper mill superintendent. Mr. Gregory was with Bowater Paper Corp. during the war. R. KOWARSKI, who as technical manager of a woodpulp and paper mill at Klucze, Poland, before the war, during which he served with the Polish army, has gone to New Zealand to join the engineering staff.

J. D. ZELLERBACH, president, Crown-Zellerbach Corp., San Francisco, spent some time in British Columbia in August, visiting Pacific Mills' mill at Ocean Falls and subsequently the big sawmill of Canadian Western Lumber Co. at Fraser Mills, with President H. J. MACKIN of the latter company. Canadian Western and Pacific Mills are partners in the new Elk Falls Co. newsprint mill project.

Additional appointments have been made to the Elk Falls Co. staff at Duncan Bay, B.C. T. B. HARGREAVES was named some time ago as resident manager. Others in the organization of this company, now building a newsprint mill on Vancouver Island, include: J. W. CLARKE, machine shop foreman; E. C. COOLEY, resident engineer; T. A. GOODRIDGE, boss machine tender; H. GRAHAM, technical supervisor; CYRIL J. HAGUE, personnel manager; W. J. HILL, groundwood superintendent; S. JEMSON, chief steam engineer; D. G. MARTIN, chief accountant and office manager; JACK YODEN, paper mill superintendent.

An advertisement in PULP & PAPER is ALWAYS WORKING—in every state and every region where pulp and paper is made in North America and in 40 countries around the world!



CROWN ZELLERBACH OFFICIALS recently visited Pacific Mills, Ltd., at Ocean Falls, B.C. on the liner Prince George. In the group, left to right, are RICHARD C. ZELLERBACH, Assistant to the Vice President; A. B. LAYTON, Vice President, Crown Zellerbach Corp., San Francisco; Capt. E. B. CALDWELL, Master of the Prince George, and R.H.R. YOUNG, Vice President in Charge of Manufacturing, Pacific Mills.



WARREN B. BECKLER (in picture) has been appointed vice president of Brown Corp. in charge of manufacturing. Mr. Beckler has been at LaTuque, Que., since 1942.



STRUCTURE OF LIGNIN represented by model of molecular chain used by Dr. KARL FREUDENBERG (center) of Heidelberg University, Germany, when he addressed International Symposium on Fundamental Chemistry of Cellulose and Lignin in Montreal recently. With him are (left) Dr. E. ADLER of the Swedish Forest Products Research Laboratory, Stockholm, Sweden, and Dr. OTTO KRATKY, of the University of Graz, Austria.



FAREWELL TO THE INDUSTRY was said by EINAR FLYGT (right), of Stockholm, when he made an extensive tour through North American pulp-producing regions late this summer. Mr. Flygt is shown here with ROY FOOTE, vice-president of Powell River Sales Co., during a visit to the British Columbia paper-manufacturing town of Powell River in September. Mr. Flygt has been with Swedish Cellulose Co., responsible for production of about one third Sweden's newsprint and pulp, for 40 years, latterly as Executive Vice-President.

## Plans for British Columbia Mill Studied

Whether another pulp mill is to be built on the west coast of Vancouver Island will depend on whether the British Columbia government determines there is sufficient timber to meet commitments of companies already established.

Denmark's Prince Axel visited Canada's west coast province recently. He is chairman of the board of directors of the East the Gibson brothers who operate sawmills Asiatic Co., which has a partnership with at Port Alberni and Tahsis.

East Asiatic Co. has extensive timber holdings along the Gold River valley and it is at present negotiating for a forest management license covering 132,000 acres in that section on Kyuquot Arm, adjacent to Muchalat Arm and Tuipana Inlet. If the government agrees, it is proposed to build a pulp mill.

## Big Canadian Meet

Some of the top men in Canada's pulp and paper industry planned to visit the Pacific coast late in October to attend the meeting of the executive board, Canadian Pulp and Paper Assn., in Vancouver.

Heading the group was D. W. Ambridge, Abitibi Power & Paper Co., and chairman of the association; R. M. Fowler, its president; A. L. Dawe, Consolidated Paper Sales; Aubrey Crabtree, Fraser Cos.; S. L. de Carteret, Canadian International; H. M. S. Lewin, Bowater's Newfoundland Mills, and others.

## Mordens and Bauers Discussed in Australia

Morden Stock-Makers and Bauer refiners are being successfully used in Australia's industry and their performance with Australian woods was described in papers presented to the recent general conference of the Australian Pulp and Paper Industry Technical Association in Burnie, Tasmania.

Referring to the Morden Stock-Makers, a paper prepared by W. D. Read, E. R. Clive and R. P. James stated that for the preparation of a newsprint furnish from eucalyptus groundwood and imported chemical pulp, it was apparent that the most suitable operating conditions were those in which output was maintained at a fairly high level (5-70 tons daily) and freeness controlled by variation in load.



**THE MEAD SALES COMPANY**

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30 NORTH WACKER DRIVE, CHICAGO 6, ILL.



**DISTRIBUTORS OF WOOD PULP**

BLEACHED AND UNBLEACHED  
CHEMICAL AND MECHANICAL WOOD PULP



Logging in Wyoming, Paul Bunyan's axe got red hot and after each long swing he dipped it in a pool to cool it. Old Faithful Geyser was formed and still repeats Paul's rhythmic chopping stroke.

A reproduction of this incident from the fabulous life of Paul Bunyan—the sixty-first of a series—will be sent on request. It will contain no advertising.

# Pusey Jones Again!



Above: Aerial view of Union Bag & Paper Corp., Savannah, Ga. Recently new buildings have been constructed in the area at rear center.

Left: No. 1 Pusey Jones Machine installed at Union Bag in 1936, and No. 2 Pusey Jones Machine which went into operation in 1937.

Right: No. 4 Pusey Jones Machine installed at Union Bag in 1942 is making liner board for corrugated shipping containers. Just visible at left is the No. 3 Pusey Jones Machine which went into operation in 1937.

# No. 6 Machine for Union Bag

The production of the world's largest kraft paper mill is made on PuseyJones machines.

Five of these great Fourdriniers — each of 236" wire width — built over a 10-year period, 1936-46 — give Union Bag & Paper Corp., Savannah, Ga., a production of 1,400 tons of kraft paper and paperboard daily.

And now — PuseyJones is building a No. 6 Machine for Union Bag . . . another 236" giant, designed for a maximum operating speed of 2000 feet per minute which will increase production 300 tons a day.

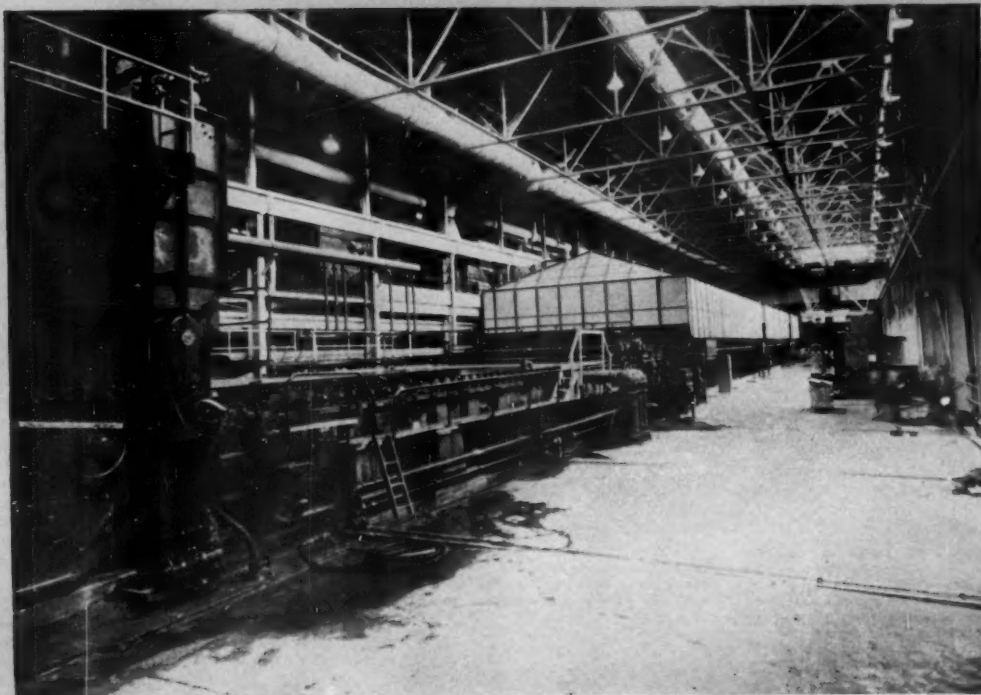
PuseyJones is proud of its long record of service to this great plant. This service is freely offered to other manufacturers who want to increase production and improve quality with Fourdrinier Machines, Cylinder Machines, Yankee Machines, or a combination of any of these types. Write or call for a PuseyJones technical engineer today.

## **THE PUSEY AND JONES CORPORATION**

**Est. 1848. Builders of Paper-Making Machinery**  
*Fabricators and Welders of all Classes of Steel and Alloy Products*  
**Wilmington 99, Delaware, U.S.A.**



No. 5 PuseyJones Machine installed at Union Bag in 1940.







All across the North American continent, north to south and east to west, the industry is improving woodlands technics and introducing large scale conservation, reforestation and mechanization.

## MECHANIZATION IN SOUTHEAST



1. MECHANIZATION OF WOODLANDS operations requires, first of all, building of good access roads, which also requires mechanization. A Bucyrus-Erie 10B shovel powered by a General Motors diesel engine is shown cutting a road into new stand of timber of Camp Mfg. Co., Inc., Franklin, Va. A heavy-duty Chevrolet truck takes the removed dirt to a "fill."



2. SAW LOGS FOR CAMP lumber division are loaded on a Corbitt truck with a pole-type trailer. International U-2 power unit gravity-swing boom loader was built on truck chassis by Camp for this operation. Pulpwood logs are taken out in random lengths from 8 to 15 feet in same manner.



3. MUCH OF TIMBERLAND owned by Camp is located in region of Great Dismal Swamp of Virginia. In this typical logging operation for swampland, an Allis-Chalmers HD-7 tractor backs up to take on a loaded Evans-Bush log trailer.

Throughout much of the country the manpower requirements and the overall cost of logging and pulpwood production remains much as it was 10 to 15 years ago. This is a fact that has frequently been called to the attention of top management of pulp and paper companies who have seen their pulpwood costs increase over 400% during the period, and have wondered just how much of this increase was due to continued inefficient operation.

A speaker at the 1951 annual meeting of the American Pulpwood Assn. said that the industry must learn ways and means of doing a good job of materials handling to bring down costs, and that mechanical power used to load trucks, barges and rail cars conserves both manpower and transportation equipment.

That this is true has been well demonstrated by the Camp Mfg. Co., Franklin, Va. This company, founded in 1887, has

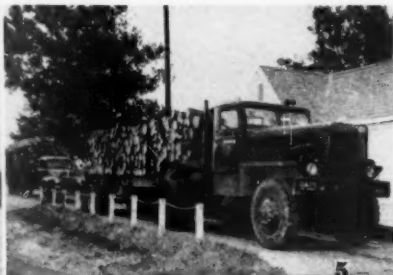
been a leader in the country in mechanizing the logging operations for its lumber and pulp and paper divisions. Today it has 137 trucks in its fleet of logging carriers; owns the 20-mile-long Franklin & Carolina Railroad used principally for transportation of its forest products; and owns and operates a 60-ton tugboat for barge transportation of pulpwood. In addition are dozens of diesel and gas powered cranes, tractors, and power saws to complete the mechanization of the largest integrated manufacture of lumber and pulp and paper in the Southeast.

There are several hundred thousands of acres of timberland in the Camp holdings—located along the coastal areas of Virginia and North Carolina, and much of it around the Great Dismal Swamp of Virginia. Logging from this area early required ingenuity, because much of it had to be done in the muck and mire of the swamplands.

Swamp logging is an art in itself—learned the "hard way." It was only through its continued experience that Camp was able to mechanize its swamp logging operations. For this they developed the Evans-Busch log trailer. This unit was made from three trailer frames, which were equipped with front and rear crawler tracks. These tracks are removable so that the rear ones may be inter-



4. PULPWOOD, PRINCIPALLY, AND SAW LOGS, sometimes, are towed up narrow Blackwater river in southeastern Virginia destined for Camp's manufacturing divisions in Franklin. The CORINTHIA is powered by four 6-cylinder General Motors diesel engines driving a single shaft. Communication between the boat and the plant is maintained by FM Motorola radio.



5. A CORBITT TRACTOR UNIT waits with 13 tons of pulpwood at a weighing station and is followed by a Ford truck loaded with saw logs. Both are making a 70-mile trip from the logging area.

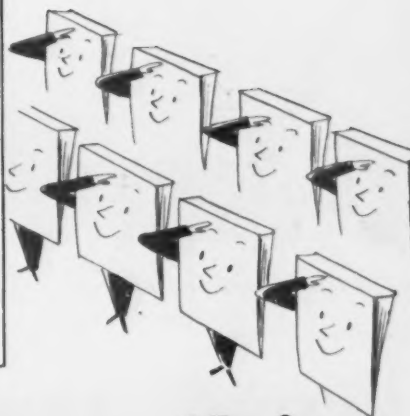


Always at Your Command...

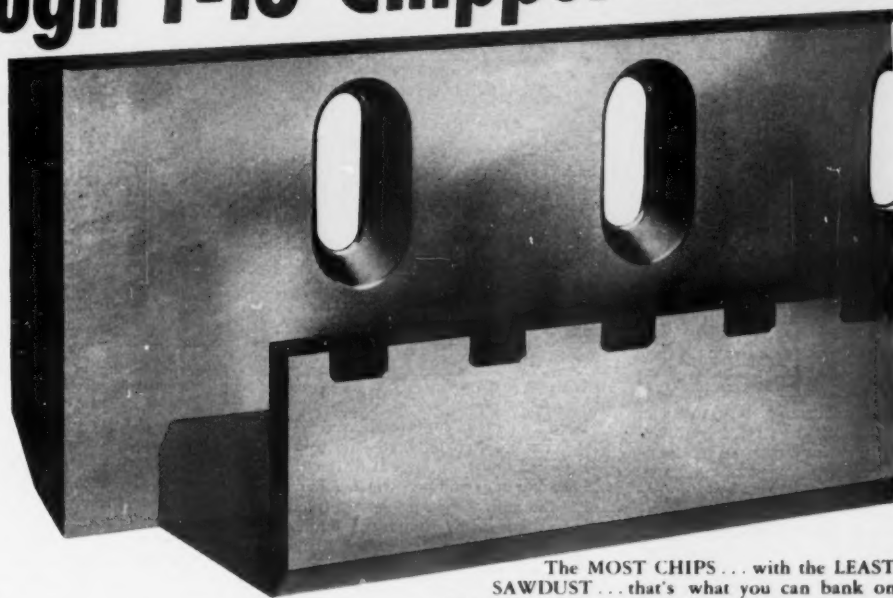
## CLEAN-CUT UNIFORM CHIPS

...when you use

### SIMONDS



# Tough T-18 Chipper Knives



The MOST CHIPS... with the LEAST SAWDUST... that's what you can bank on getting from every Simonds Chipper Knife. Simonds' own special T-18 Steel has the top toughness it takes to cut clean, evenly-sized chips... and to keep on cutting them, long after other knives have gone to the grinder. Yes, you'll find there's longer life in a Simonds Knife and more chips in the bin after every run. Get T-18 Knives on your chippers and start saving right now. Call your supplier today!

**SIMONDS**  
SAW AND STEEL CO.

FITCHBURG, MASS.

Branch Offices in Boston, Chicago, San Francisco and Portland, Ore., Canadian Factory in Montreal, Que.



1. MECHANIZATION CARRIES THROUGH to the wood yard where saw and pulp logs are removed from rail cars by a Link-Belt crane equipped with a Blaw-Knox grapple.



2. TRUCKS ARRIVING AT CAMP are unloaded with a Browning steam crane equipped with a Blaw-Knox grapple. Waiting behind the Ford truck being unloaded is a Chevrolet. Camp has 137 trucks in operation in its lumber and pulp and paper divisions.



3. THIS IS A SPECIAL CORBITT tractor-trailer unit built for Camp which is used for transportation of short pulpwood from various concentration yards located on good roads within a 30-mile radius of Franklin.

changed with a set of pneumatic-tired rear axles.

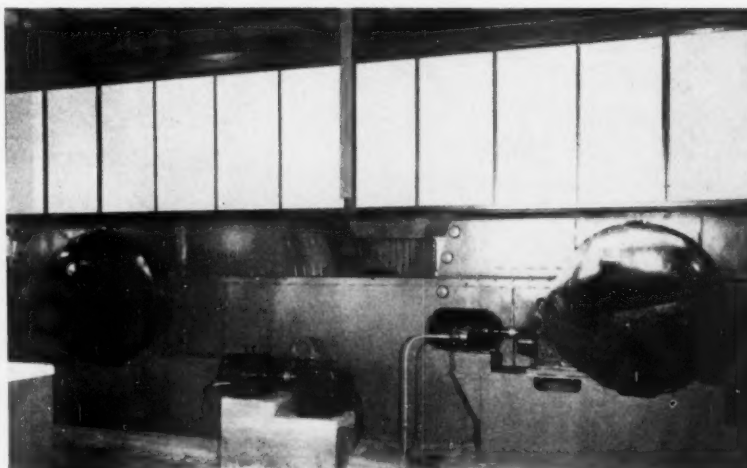
After logs are loaded on the Evans-Busch trailer unit, an Allis-Chalmers HD-7 crawler tractor backs up to haul it out of the swamp. When the load has been pulled out to the roadhead, the rear tracks are removed and replaced with the rubber-tired axles. The crawler moves away and a tractor truck moves in to make the hook-up and leave for the mill. Camp men say it takes only eight minutes to remove the crawler tracks from the trailer and install the axle with rubber tires.

Further mechanization in the woods includes the development by Camp of a gravity-swing boom loader. This loader, powered by an International U-2 Power Unit is built on a sturdy truck chassis and confines the loading operation to three men—one to run the loader, one to set the lines on the logs, and one to place the load on the truck. This has been used in the Camp woodlands for several years.

Also developed for Camp at the suggestion of J. B. Johnson, general manager of woodlands, was a Corbitt tractor-trailer unit for transporting short pulpwood from various concentration yards within a 30-mile radius of Franklin (see photos). This unit is low-slung for transportation along good roadways, and is limited to from five- to six-ton capacity.

The narrow Blackwater River winds its way through much of the Camp holdings in southeastern Virginia and upper North Carolina, and makes possible water transportation for saw logs and pulpwood to Franklin. The Camp Company owns the "Corinthia," a 70-foot towboat which can pick up barge loads along the river and haul them in to the mills. The boat is powered by four General Motors 6-cylinder diesel engines driving a single line shaft. The boat's captain keeps in touch with his plant by a FM motorola radio.

Once the logs reach Franklin, they are also unloaded mechanically. Trucks are unloaded by Browning steam cranes equipped with Blaw-Knox grapples, either into yard storage, or directly onto the decks ahead of the log barkers. Link-Belt cranes work in the yards unloading from the barges or from the rail cars. This is true whether the logs come in full



Two—9'0" dia. x 6'0" face Swenson-Nyman Washers operating as a 2-drum 4-stage system at Camp Mfg. Co. Drive side elevation shown. Semi-chemical pulp washers.

length or cut to pulpwood sizes.

From its own holdings, the practice of the company is to log out in long lengths, both saw logs and pulpwood. After reaching the mill, the pulp logs are then cut to 5-foot lengths by running through a gang saw-equipped conveyor line. This handling reduces the cost of hand cutting in the woods, and also cuts down on much of the handling cost in loading and unloading from truck or train. Pulpwood taken in from small private holdings is usually in normal pulpwood lengths.

While no figures on their woodlands costs have been divulged by Camp's managers, there is no question but that mechanization has done much to keep them within reason in a day when all costs seem without ceiling.

### Forest Service Sprays

Thirty-four thousand beetle-infested Englemann spruce trees in Colorado were sprayed during the first 10 days of the 1952 campaign against this forest-killing insect, the U. S. Department of Agriculture reported. The Forest Service has established eight 100-man camps, four of them manned by Indians.

### Cones For Seeds

Crown Zellerbach Corp.'s annual forest cone harvest moved into "full swing" in September, according to Chief Forester Clarence Richen, Portland, Ore. Crews under company foresters are gathering cones from several tree farms in the Columbia river area from Douglas fir, Western hemlock, grand fir, noble fir, Sitka spruce and Western red cedar.

The season's program calls for securing 3 to 4 thousand pounds of selected, high-quality tree seeds for storing at freezing temperatures in the "seed bank." This quantity represents 500 to 600 million seeds.

At start of current cone gathering, the CZ seed bank contained less than a ton of tree seed which, according to Mr. Richen, is inadequate for one season's reforestation program. Plans call for continuation of reforestation by helicopter on 2 to 3 thousand acres late this year and for early fall planting 200,000 two-year old noble fir seedlings at high elevations on CZ Clackamas Tree Farm and over a million trees in the ground before conclusion of rainy season next spring on the tree farms in Oregon and in Washington.



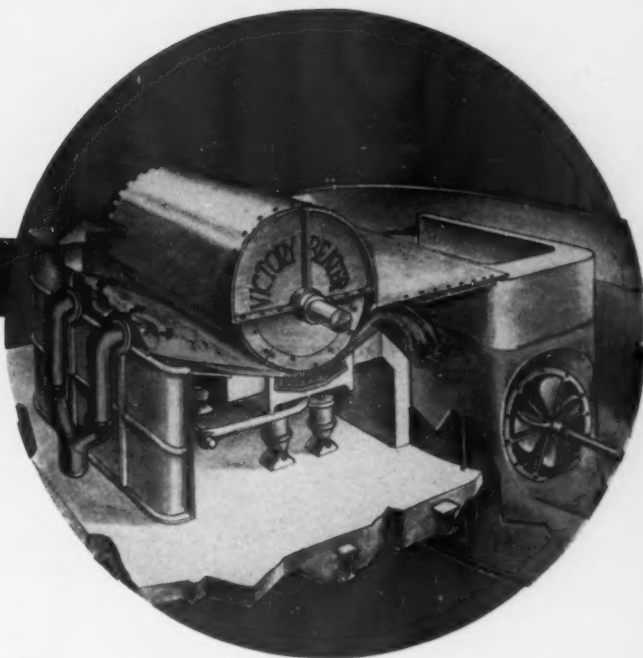
## Controlled Flow across full face!

### EXCLUSIVE FEATURES OF THE VICTORY BEATER

1. Controlled Flow — uniform, positive fibrillation
2. Pressurized bedplates
3. Absolute control up to 40 tons bedplate pressures
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12. All-time record for continuous production!

VICTORY BEATERS are made in two styles: (a) **Single Roll** units for handling batches as small as 500 pounds. (b) **Multi-Roll** units with two, three or more rolls for treating 100, 150, 200 or more tons per day on a continuous production basis.

All the facts are available for your examination. Write, phone or wire today for complete information. Ask for Booklet. PP 1151



**I**N the Controlled Flow VICTORY BEATER\* the roll has one function only: to treat the stock. To assure uniform, positive fibrillation, the roll is fed only the exact amount it can treat in one pass. This stock is spread in an even film across the entire roll face — exclusive deflectors preclude stock starvation in any area — and squeezed up to 40 tons pressure by the hydraulic bedplates centralized under the roll. There is no superior method.

The Controlled Flow VICTORY BEATER saves power up to 35% over any other known beating or refining equipment on equivalent papers, and raises both quality and volume of production.

\* Patents issued and pending.

## THE NOBLE & WOOD MACHINE CO.

Paper Mill Machinery

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## Celanese Plant Near Completion

Celanese Corp.'s new \$40,000,000 chemical plant near Edmonton, Alberta, which will assist in processing dissolving pulp manufactured by the company's subsidiary Columbia Cellulose Co. at Watson Island, B.C., will be completed within 18 months.

Meanwhile Celanese engineers have been making a survey of Castlegar as a site for an integrated wood-using industry. This is close to Consolidated Mining & Smelting Co. at Trail, B.C., which has a hydro-electric development on the Pend Oreille River. Surplus power would serve the proposed pulp mill.

## Gannett Buys Berwin

Formal transfer of Berwin Paper Manufacturing Corp., Dansville, N.Y., to the Gannett Company, Inc., was scheduled for September 17. Reports are that Gerwin's tissue-making facilities—about 14 tons a day—will be converted to newsprint with the addition of a high-speed Fourdrinier machine.



ALLAN HYER (shown at left) has been appointed Consultant to the New Facilities and Equipment Branch of Pulp, Paper and Paperboard Div., National Production Authority, Washington, D.C. He will advise with regard to pulp and paper machinery and facilities.

A. P. WENDLAND (at right) has been appointed manager of the General Service Department of the Elliott Company, Jeanette, Pa. Mr. Wendland succeeds the late Frank Murphy. Mr. Wendland came with Elliott in 1925; graduated from Oregon State College.

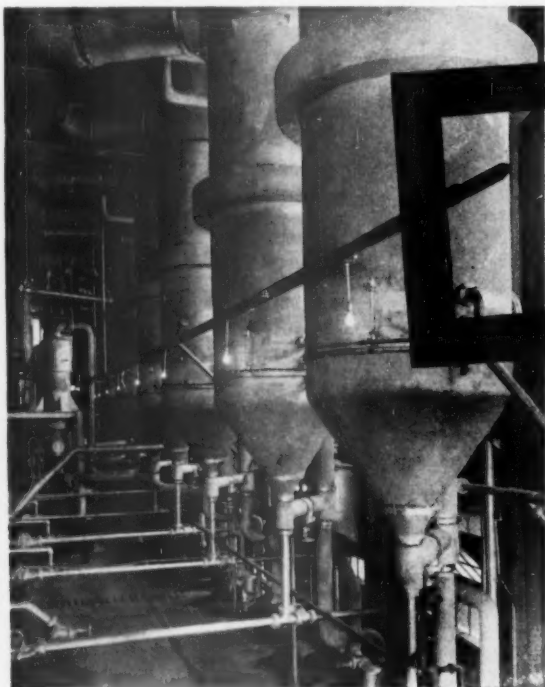
## New Research Dept. For Southern Kraft Div. of I.P.

Creation of a research department for Southern Kraft Division, International Paper Company, to occupy a new structure adjacent to the administration building in Mobile, Ala. Previously, all of the company's research work was conducted at Hawkesbury, Ontario.

The new laboratory will be of concrete and steel, 146 feet long by 50 feet high and of two story height. It will house eight separate laboratories, three humidity rooms, two pilot plant areas, seven offices, and a technical library.

The director of research will be John W. Gilbert, who has been active in that field since 1948. He served International Paper Company at its mills at Springhill, La., Moss Point, Miss., and Bastrop, La. He will advise with regard to pulp and mill.

Associate director of research is Guthrie S. Mabrey, a native of Horton, Ala., and formerly pulp mill superintendent of the company's Moss Point, Miss., plant and chief chemist of the Mobile mill.



## Lower Cost Black Liquor Evaporation

WITH SWENSON L.T.V. EVAPORATORS Years of operation in kraft and soda pulp mills have demonstrated the economy of this equipment — low first cost, low operating cost, and low maintenance.

Swenson engineers with specialized experience in the pulp industry will gladly help you work out evaporation and other process problems . . . call on them while your plans are still in the formative stage.

More than 500,000 lb of evaporation per hour is provided by this multiple-effect Swenson Black Liquor Evaporator

- Evaporators
- Pulp Washers • Deckers • Filters
- Digester Blow Condensers
- Surface Condensers
- Turpentine Condensers • Causticizers

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BUFFALO 2: 410 Jackson Bldg. NEW YORK 7: 30 Church St.  
CINCINNATI 2: 729 Fed. SEATTLE 1: 1326 Fifth Ave.  
Res. Bank Bldg. TORONTO 2: 47-49 LaPlante Ave.



# POWELL RIVER



STRENGTH  
COLOR  
SERVICE  
DEPENDABLE  
SUPPLY

**POWELL RIVER  
SALES COMPANY  
LIMITED**

# Personals

## Pacific Coast Notes

**J. D. ZELLERBACH**, Crown Zellerbach Corp. president, visited that firm's Pacific Northwest operations recently. Meeting with professional and business men and company employees, he discussed progress and future plans of the firm. He "gave a peek behind the diplomatic curtain", observations of international affairs during his recent trip to Europe at request of Italian government. Mr. Zellerbach formerly served as chief of Italian mission for ECA in administering Marshall aid funds. The company tour included Vancouver, B. C.; Duncan Bay, and Ocean Falls, B. C.; Port Angeles, Port Townsend, Neah Bay, and Camas, Wash.; Portland and West Linn, Ore.

**BOB BAER**, with Griffith Rubber Mills handling pulp and paper industry sales since 1947, has been appointed general sales manager, according to announcement by **ZINA A. WISE**, president. Mr. Baer will continue working with all the firm's pulp and paper mill accounts.

**RAY BAKER**, manager of the pulp mills at Longview, Wash., for the Pulp Division of Weyerhaeuser Timber Co., and Mrs. Baker welcomed a new addition to their family on Aug. 21. A son was born to them and now they have three boys and one girl.

**ROGER NIMAN** has been promoted to the position of assistant master mechanic of the Soundview Pulp Co., Everett, Wash. He has come up through the company's engineering organization.

**ROBERT W. (BOB) STEVENS**, Papermill Consultant of Los Angeles, California, has left on an extended trip to Canada, France and Sweden in the interests of his clients. He states that plans are underway for a new, large and completely modern paperboard mill in Sweden. He will return to his office about October 28th.

### Mrs. W. A. Kelly Dies

Mrs. Caroline E. Kelly, wife of W. A. Kelly, manufacturers' representative of Portland, Ore., died of a heart attack Sept. 23 at their home.

Mrs. Kelly is survived by her husband, W. A. "Bill" Kelly, a daughter, Florence, two brothers, Ben and Julius Swenor of Petosky, Mich., Mr. Kelly's brother, R. H. Kelly, manager of the Marathon Corp. mill at Rothschild, Wis., and Mr. Kelly's sister, Alma Humphrey, Green Bay, Wis.

Bill Kelly was formerly superintendent of the Marathon mill at Rothschild, from 1910 to 1920, then moved to Green Bay, Wis., where he was manager of Northern Paper Mills, 1920 to 1928, at which time he became vice president and general manager of the Hawley Pulp & Paper Co., Oregon City, Ore. Mr. Kelly is now West Coast representative of Waterbury Felt Co., Skaneateles Falls, N.Y., and sales agent of A. M. Meincke & Son, Turner Halsey Co., and Hydro-Silica Corp.

## Duncan in California

Ollie Duncan, former paper mill superintendent in Southern and Pacific Northwest paper mills, is in Richmond, Calif., helping to erect the cylinder machine for a new California paper board mill being built there. His address is 116 West Barrett St., Richmond, Calif.

**VINCE MCDONALD**, formerly assistant office manager at Crown Zellerbach Corp., Port Townsend, Wash., transferred to CZ West Linn, Ore. mill in same capacity in mid September. He replaces **R. E. LAWTON**, for several years assistant office manager at West Linn, who resigned to affiliate with Addressograph Sales Agency in Portland, Ore.

**MIKE PAUL**, personnel supervisor, Crown Zellerbach Corp., Camas, Wash., attending the autumn personnel conference of American Management Assn. in New York City in September returning home via Washington, D. C., where he visited with Rep. Russell V. Mack from Washington State.

**R. C. CRAIN**, formerly technical superintendent of Nekoosa, Wis., plant of Nekoosa-Edwards Paper Co., and recently appointed general superintendent of Columbia River Paper Mills, Vancouver, Wash., has with his wife and three children moved into their new home at 700 West 23rd, Vancouver.

**HAROLD B. CAMPBELL**, until recently jiggerman and relief shift foreman in groundwood mill of Crown Zellerbach Corp., West Linn, Ore., has been promoted to shift foreman of groundwood mill.

**ROBERT CHARTERS**, son of **GEORGE W. CHARTERS**, assistant resident manager, Crown Zellerbach Corp., Camas, Wash., completed a year's U.S. Navy radar and electronics training in late September at Treasure Island, Cal. He received his degree in electrical engineering last year at Notre Dame and is now a qualified electronics technician. Following a 10-day visit at his parents' Washougal, Wash., home he joined a destroyer group at San Diego in October.

**GEBHART BECKER**, pipe foreman at Longview Fibre Co., Longview, Wash., died early in May. **FRED PLANT**, formerly assistant pipe foreman, has been promoted to pipe foreman; **WILLIAM KIRBY**, shift maintenance foreman, named assistant pipe foreman; and **ALAN ANDERSON**, formerly of the engineering department has become shift maintenance foreman.

### Madigan Is President; Henschel V.P. of L.A. Firm

Gerald N. Madigan was recently elected president and general manager of Johnson, Carvell & Murphy, of Los Angeles, whose paper products division handles I.P. Southern Kraft, Continental Bag, Fernstrom, Adhesive Products and other lines.

Montreal-born in 1897, Mr. Madigan joined J-C & M in 1923, became a U.S. citizen in 1929, became manager of the paper products division in October, 1950, succeeding the late Russell F. Attridge. When President Edward W. Murphy died a month later, his son, Edward M., succeeded him as president, but recently retired and became chairman of the board.

Albert C. Henschel, who succeeded Mr. Madigan as manager of the paper products division, was recently promoted to vice president in charge of paper sales. Arthur B. Felt is also a vice president. Messrs. Madigan, Felt, Henschel, Colin, Gair and Henry Gollong are directors.



(l to r): **R. J. SEIDL**, Forest Products Laboratory, Madison, Wis., discussed high yield pulping; **A. H. LUNDBERG**, Chemical Engineer, Seattle, whose subject was, "Pyrites Plants." **J. V. SAVAGE**, Crown-Zellerbach, Camas, discussed "Sulfur Saving," and **AL GRAEF**, Weyerhaeuser, Pulp Division, Everett, who talked on "Sulfur Consumption at Bleached Sulfite Mill." Below (l to r): **J. M. MC EWEN**, assistant research director, Pulp Division, Weyerhaeuser Timber Co., Everett, moderator of the meeting on sulphur problems; **E. O. ERICSSON**, technical director, Puget Sound Pulp and Timber Co., and **TAPPI** coast chairman, **J. T. FIRESTONE**, Weyerhaeuser, Pulp Div., Everett, who also talked on "Sulfur Consumption."

## Sulfur Discussed

Sulfur Recovery was the general subject up for discussion at the regular Coast TAPPI meeting held at Bellingham, Wash., Sept. 26. Papers on sulfur were given by representatives of Coast pulp mills, with **J. M. McEwen**, assistant research director, Pulp Division, Weyerhaeuser as moderator. Approximately 75 mill representatives were present. The evening banquet was highlighted by a talk by Dr. Borje Steenberg of Stockholm.

## Heads Box Plants



**R. P. "Dick" Wollenberg** (in picture) of Longview, Wash., has been named manager of container operations for the Longview Fibre Co., according to **R. S. Wertheimer**, vice president of the firm. Mr. Wertheimer said all three

of the company box factories now are under Mr. Wollenberg's management, as is the box order department at Longview. Box factories are at Longview, Los Angeles and Oakland, Calif.

Mr. Wollenberg is former chief of the engineering division for the Fibre. W. M. Sutherland, who has been with the company since 1936, will continue in full charge of the engineering division. Mr. Wollenberg will maintain offices at Longview. Box plant supervisors remain the same. **A. O. Parson** is superintendent of the Longview plant. **Omer Denny** is manager at Oakland, and **A. F. Knaggs** is manager at Los Angeles. The three box factories employ about 665 people.

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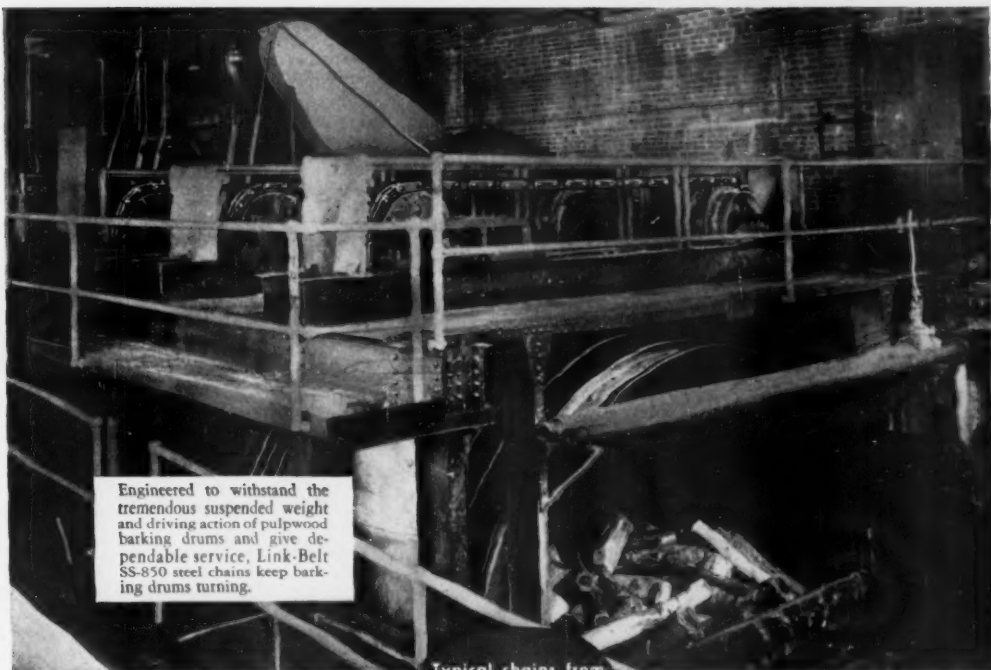
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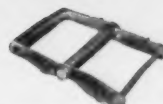
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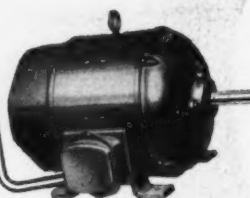
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# A NEW SCREW PRESS FOR PULP BLEACHING, DE-INKING, AND OTHER USES

By Bruce Armstrong

In Charge of New Developments, Jackson & Church Co., Saginaw, Mich.

The (Zenith) screw press was brought over to the U.S. from Germany in 1907, where it had been developed for pressing sugar-beet pulp. An improved type was introduced in 1935 and has been modified from time to time as the need arose for better performance, automatic operation etc. The press was adapted to several other industries, notably the wet corn milling process; recovery of oils from fish waste; manufacture of glue, the citrus industry, etc.

Application of the press to paper and pulp was first suggested by one of the leading manufacturers interested in bleaching groundwood by the peroxide process. It has taken over two years of intensive study and experimentation to develop equipment. It is the purpose of this paper to discuss in some detail what has been accomplished.

Basically, the press consists of a vertical tapered spindle equipped with interrupted helical flights; a screen surrounding the spindle and a conical control at the bottom which can be adjusted to suit the required conditions.

Power to drive the spindle is applied at the top through suitable reduction gearing. For any given set of fixed conditions, the speed of the spindle together with the helix angle of the flight governs the capacity of the press. However, the tangent of the maximum helix angle of the flight must not exceed the coefficient of friction

between the material to be pressed and the flight, or it will tend to rotate the material rather than force it in a downward direction. A second limitation is imposed on the speed by the facility with which the material will give up its liquid—(i.e., drainage properties); otherwise sufficient time will not have been provided for the liquid to have found its way through the interstices of the fiber and escape through the screen before discharge. As a corollary, there must be sufficient open-screen area for the required flow of liquid.

The coefficient of friction will vary over a wide range from top to bottom of the spindle as the consistency increases in the passage of the material through the press. Also, the volume of material will decrease for the same reasons. Hence, both conditions can be brought into equilibrium by lowering the helix angle of the flights from top to bottom of the spindle.

A conical control member is provided so that the outlet can be closed when first starting up. In this manner a "seal" can be formed which will maintain itself at any predetermined counterpressure by providing a thrust mechanism to operate the cone, such as an air or hydraulic cylinder with a pressure regulating valve. After a short period of time the thrust of the flights on the material will slightly exceed the counter-thrust of the cone. The cone will then open a passage for the discharge of the pulp and by maintaining the two

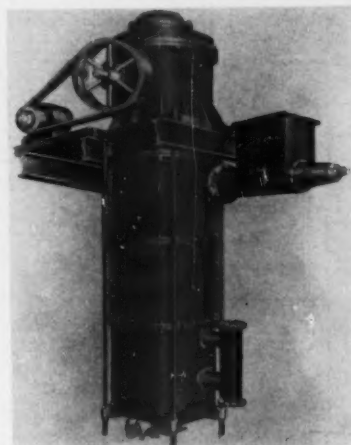


PHOTO OF JACKSON & CHURCH'S No. 026 Model, a new Worm Drive Press with capacity of 150 tons a day (100 hp), instead of the old capacity of only 25 tons a day. Six months of engineering work are behind this new model.

pressures in equilibrium, will maintain this opening so that the pulp is discharged at the desired moisture content even though the rate of feed or entering consistency varies somewhat. This is accomplished by moving the cone up or down, as may be required, to adjust the area of discharge port to the tonnage being handled.

Thus the press is independent of the consistency and feed rate at least within the range ordinarily encountered in average mill practice. With very low consistency feeds, however, all other variables remaining constant, the percentage of solids in the effluent will increase quite substantially and may be a controlling factor if the press effluent cannot be used in a closed circuit.

To date considerable work has been done in evaluating the press in: (1) bleaching at high density using the Du Pont sodium or hydrogen peroxide process followed by neutralization; (2) bleaching at high density using a modification of the Becco "cold-steep" process without neutralization; (3) de-inking of telephone book, newsprint and ledger stock; (4) collection of waste sulfite liquors; (5) extraction of neutral sulfite cooking liquor (6) extraction of caustic black liquors (7) extraction of water from pulp for bulk-storage or bulk-shipment. Some of these applications have been installed and are working satisfactorily on a mill scale,

## ABOUT JACKSON & CHURCH AND THE AUTHOR

This paper, with illustrations especially obtained for PULP & PAPER, was given at the Northwestern Superintendents meeting in northern Michigan in September and—before this issue went to press—Mr. Armstrong (shown in picture) had been invited to deliver it again at a Southern meeting.

While Jackson & Church Co. is just making its bow in the pulp and paper industry with this press, it is a company with an old and respected record for accomplishment in other industries. Founded in 1881, it started out making engines, boilers and other equipment for the then booming lumber industry of Michigan and in the early days of the motor car industry did a lot of body and fender die work for it. J & C has become a specializing manufacturer of hydraulic, brick, plastic, injection molding and pulp presses, and likewise of heating equipment. Much of its work has been for the sugar beet, corn milling and citrus industries and in some cases strike a familiar note to pulp and paper people, as it has contributed eliminating pollution and developing by-products. For example cattle feed and alcohol by-products from citrus and beet waste.

Clifford L. Stuart, formerly prominent in the publishing business, has been president of B & J since Jan. 1.

Mr. Armstrong, native of New York City, with mining engineering degree from Columbia, spent many years in Latin America in mining and metallurgy. He was with Sprout-Waldron Co. 16 years and before joining J & C in 1949, he was several years with Peter J. Schweitzer Inc., as plant and design engineer for their cigaret and fine paper mills in New Jersey and Pennsylvania.



# $\Delta B$ VS. DENSITY AT DIFFERENT $KMnO_4$ NOS.

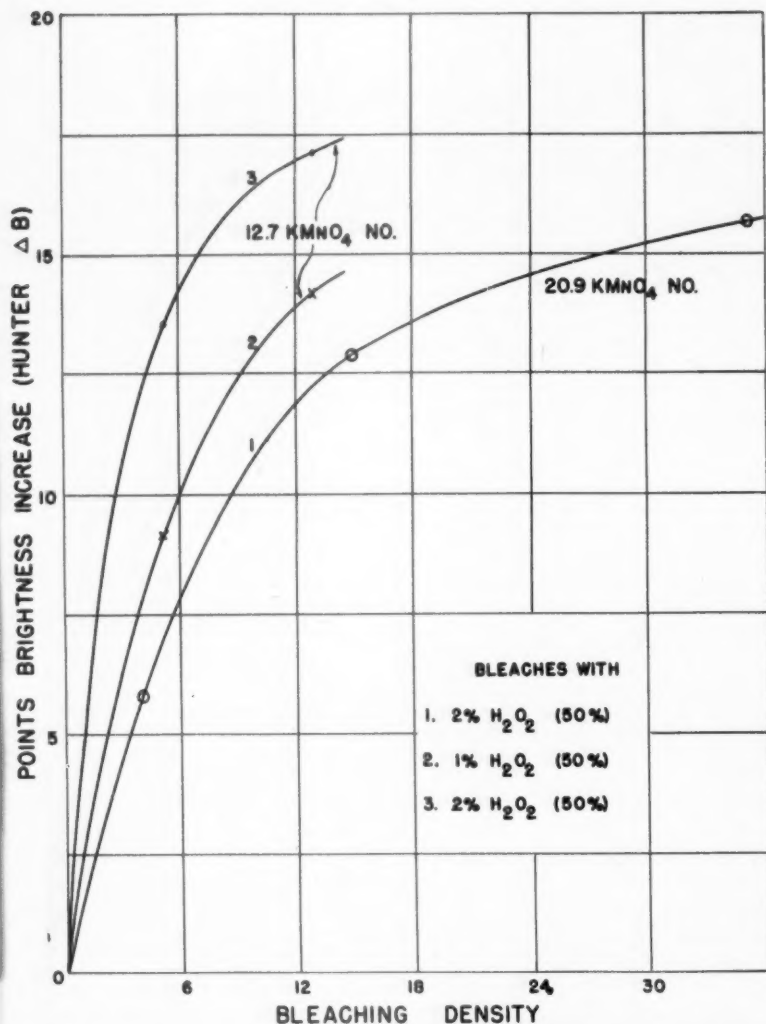


FIGURE 1—EFFECT OF CONSISTENCY ON BRIGHTNESS GAIN UNDER FAVORABLE CONDITIONS

while others are based on pilot-run tests.

(1) *Bleaching:* Fig. 1 is taken from a paper published by Dr's. Peet and Reichert of the Electrochemicals Division of the E. I. du Pont de Nemours Company, showing the relationship between consistency and brightness on a given pulp with the same percentage of peroxide, based on the O.D. weight of pulp. This applies equally to either the "neutralized" process or the "cold-steep" process; and to either groundwood or sulphite pulp, except that the gain is greater on sulfite pulps. Also, of interest in this connection is Figure 23, taken from a paper written by Mc Ewen, Sheldon & Nelson of Becco. Note that at 6% consistency the brightness increase is approximately 7½ pts; at 12% consistency the increase is approximately 12 pts and at 36% consistency the increase is approximately 16 pts. This, of course,

would permit of using less peroxide at the higher density if the full brightness increase were not required, with a very substantial saving in cost.

Referring to the neutralized process, stock going to the system is brought to a fixed consistency and metered before going to the decker. Similarly, the bleach solution is made up to a given strength and metered to the system, using a flow-rator to secure the proper ratio of peroxide to O.D. pulp. Provision is made in the feeder to periodically check the flow of stock; and, by determining its consistency, to determine the rate of feed O.D. basis of pulp. Where the cost would be justified, the proportioning of peroxide to pulp can be made fully automatic, the flow of bleach being controlled by the flow of stock through standard remote control equipment.

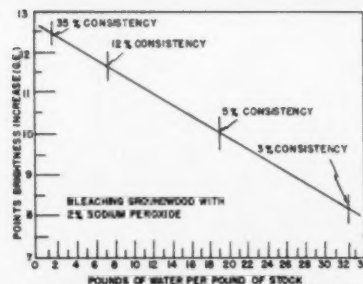


FIGURE 2—EFFECT OF DENSITY IN SINGLE STAGE BLEACHING OF UN-BLEACHED SULFITE PULP

It is of advantage to decker or thicken the pulp before going to the press, as this will lessen the duty on the press and permit of running the spindle at a higher speed with a consequent improvement in capacity per press and will also reduce the fiber loss per ton of pulp.

The press is customarily adjusted to deliver the pulp at 38% to 40% consistency, dropping out of the press by gravity to a short section of screw conveyor which delivers it to the feeder and at the same time breaks up the fairly sizeable lumps into small "noodles." The feeder, in addition to its function of feeding the pulp to the bleach-mixer, also acts as a small surge-bin to even out any irregularity in the press discharge.

To add a small percentage of bleach solution to this dry pulp presents a serious problem. To perform this function satisfactorily the type 015 bleach mixer was developed. This resembles a disc-refiner with a specially designed set of plates. The teeth of the rotating plate meshes in the groove formed by the adjoining pair of teeth in the stationary plate and vice-versa, so that the plates are self-cleaning. The pulp enters at the center and is



PHOTO OF THE JACKSON & CHURCH CO. Refiner No. 025, with motor underneath it, and directly connected. It uses from 100 to 400 hp., as needed.

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carried by centrifugal force to the periphery, where it is discharged from the casing by the four blades or "ears" attached to the disc. After it has passed approximately  $\frac{3}{4}$ rd's the distance from the inlet, the pulp will have been opened up into individual fibers. At this point the bleach is added and the remaining rows of teeth incorporate the bleach solution intimately into each fiber. The shear velocity at this point is high enough to break the bleach into a fog, with a large increase in covering power; and the pulp will have increased its specific surface several fold, thus affording the ideal conditions for a uniform application of bleach. Best results are secured when the plates are very loosely meshed; and as a consequence the specific power does not exceed 1 hp. day per O.D. ton of pulp.

After passing through the bleach-mixer the pulp is held for a specific retention time in a tower. If too short a time is provided, the reaction will not have gone to completion and if held for too long a time, reversion may take place accompanied by a loss in brightness. Channeling must be avoided, as this will retain some pulp too long and the rest of it for too short a time, thus losing both some of the economy of bleaching at high density and some of the available brightness increase. Hence, the tower should have a slight taper so that the pulp will descend in approximately horizontal layers and avoiding any tendency to arch.

In the "cold-bleach" system the flow-sheet remains the same until the pulp is discharged from the bleach-mixer, at which point it is blown (or otherwise conveyed) to a R. R. car, truck or storage. The final pH of the bleached pulp is determined by the percentage of silicate added in the bleach solution. Heat is ordinarily not added and the retention time is measured in days. No neutralization is required. A final wash is not necessary in either process.

Capacity of the Zenith press on a "slow" groundwood (i.e. from 35-55cc Canadian Standard Freeness) is approximately 25 tons, dry basis, per 24 hour day. On a tissue grade (say 100-125 cc Freeness) capacity increases to 30-35 tons/day. On a "free" stock, such as kraft or sulfite, capacity increases to 100 tons or more.

3. In De-Inking, the same principles apply as outlined above. Present mill practice tends to cook and pulp simultaneously at considerably lower temperatures than formerly. This lends itself to using a Hydrapulper, Pulpmaster, Dynopulper etc.) at atmospheric pressure. To the charge is added steam, caustic and often a detergent. Some plants advocate

adding a small amount of peroxide also as it aids in breaking down the oil vehicle and minimizes the darkening effect of caustic on groundwood. The consistency is kept as high as is practicable. The charge is dumped into a brown-stock chest as soon as the defiberization is complete, where cooking may continue, if required, while the next batch is being pulped. The brown-stock is pumped direct to a Zenith Press in which chemical and ink is removed and upon discharge from the press may go to a bleach mixer inasmuch as it is already at high density and can be given a light bleach with peroxide to improve the color; or it may be diluted with wash-water and given a second washing. Determination of whether to bleach or re-wash depends on the character of the stock. A paper heavily filled with clay (20% or over) will usually require a second wash, preferably this time at low density. The clay particles tend to entrain some of the ink and the clay content is not appreciably lowered by the press. On telephone and newsprint a single pass in the press has been found to be entirely adequate. From the limited data now available, it is possible to recover a pulp several degrees brighter than the original sheet by touching it up lightly with peroxide.

The advantages over conventional washing are: Separating ink and chemicals in concentrated form for further processing; saving in amount of water required; reduction in fiber loss; and appreciable saving in floor space, maintenance, smaller pumps, motors etc.

4. Collection of Waste Sulfite Liquors. If a new sulfite plant were to be designed, it would be advantageous to convey the pulp at digester consistency. In adapting it to an existing mill, the pulp would be diluted with hot waste liquor in the blow-chest to pumping consistency and pumped to the Zenith press. If the pulp has an inherently high dirt count, it would perhaps be better to dilute to about 1% consistency and first remove the knots and coarse rejects as some of the softer knots may be broken down in the press and tend to raise the dirt count. The pulp would then be pumped to a decker or thickener before going to the press in order to keep fiber loss in white water to a minimum.

If we assume a pulp at 8% consistency at the digester and after passing through the press the consistency is raised to 35%, the waste-liquor extraction will be as follows:

$$\begin{array}{rcl} \text{lbs. liquor per lb. O.D. pulp} & @ & 8\% = 11.50 \\ & @ & 35\% = 1.67 \\ \hline & & 9.83 \\ \% \text{ extraction} = \frac{9.83}{11.50} & = & 85.3\% \end{array}$$

If a cleaner pulp is required than can be secured in one pass, the high density pulp can be re-slurried and put through a second press in series with the first. This introduces dilution water and is usually not done.

In a full scale test made by a mill in Wisconsin on sulfite pulp quite complete data were collected for the Sulfite Manufacturers Research

League. Fractionations made on the pulp before and after pressing indicate that a small amount of work was done on the pulp but the changes are not great enough to be significant. Strength tests were also made before and after pressing including Mullen, tear and bulk. Tests were made on a Valley Laboratory Beater.

	Before	After press
Bulk 5 min.	1.37	1.55
Mullen at 400 freeness	1.13	1.14
Tear " " "	1.29	1.28
Time to " " "	14 min.	19 min.

Due to the action of the press, fiber-bundles were formed, increasing the bulk and tear slightly and decreasing the Mullen. If the pulp had been stirred with warm water at some intermediate density, it is believed that no change in strength would have resulted.

5. Semi-Chemical Pulp. Some excellent test-work has been done by a mill in Michigan on neutral sulfite semi-chemical pulp using both conventional vacuum washers and a Zenith Screw Press.

From a previous study the "fixed-soda" content of the pulp was determined for various liquor concentrations. The "total soda" content was then determined for several consistencies and plotted as total soda versus consistency. A family of such curves permits the derivation of a simple mathematical expression so that washing performance can readily be calculated. Actual mill runs, when plotted on these curves agree within the error of sampling and laboratory determinations.

This can also be calculated as follows:

Assuming a black liquor with a soda concentration of 75 lbs per 1000 gals, at 3% consistency and a pulp with a "fixed-soda" content of 20 lbs per ton of O.D. pulp. At 3% consistency there would be 32.33# of black liquor per pound of O.D. fibre, with a specific gravity of 1.040.

$$\begin{array}{rcl} \text{Total soda} = 32.3 \times 2000 & \times & 75 = 559\frac{1}{2} \text{ /ton} \\ & 1.04 \times & 8.34 \\ & & \text{pulp (O.D.)} \end{array}$$

559-20 = 539 "free" soda  
Taking the press discharge @ 40% consistency (O.D. basis):

$$\begin{array}{rcl} 3\% = 32.33 \text{ liq./lb. fibre entering press} \\ 40\% = 1.50 \text{ " " " leaving press} \end{array}$$

$$\begin{array}{rcl} 30.83 \text{ Extraction} \\ \% \text{ extraction} = 30.83 = 95.4\% \\ 32.33 \\ \% \text{ residual} = 4.6\% \\ \hline 100.0\% \end{array}$$

After passing through the press, there would remain:

539 x .046 = 24.8# soda per ton pulp. Adding the 20 lbs. of "fixed" soda in the pulp, it would have a total soda content of 44.8 lbs. per ton.

Similarly, by accepting dilution water sufficient to repulp the discharge from the first press to a consistency of 8% and putting the pulp through a second press in series, we would have: lbs. of liquid per pound of O.D. fibre @ 8% consistency = 11.5 lbs/lb. As the discharge has 1.5 lbs/lb., it would be necessary to add 10 lbs. of water/lb. of pulp.

$$\begin{array}{rcl} 8\% = 11.5 & 10.0 = & 87.0\% \text{ Entering} \\ 40\% = 1.5 & 11.5 = & 13.0 \text{ Residual} \end{array}$$

$$\begin{array}{rcl} 10.0 & 100.0 \\ (44.8 - 20.0) \times 0.13 + 20 = & 23 \text{ lbs. total soda/ton} \\ \text{pulp.} & & \end{array}$$

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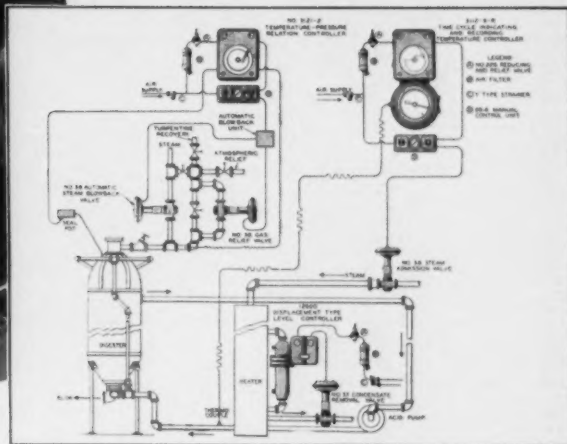
HAROLD R. MURDOCK, Chemical Engineer

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## A black and white photograph of industrial machinery, likely a control panel or part of a process line. The image shows a dark, textured surface with several circular components, possibly lights or sensors, arranged in a row. The photograph is tilted and has a grainy, high-contrast appearance.

Sulphate Process. Control Equipment installed at Macon Kraft Co. Indirect-Heated Digesters having forced circulation.



*Look at the advantages you get with Masoneilan Digester Controls —*

- Consistently uniform pulp
- Low percentage of rejections
- Uniformity from cook to cook
- Low steam consumption
- Uniform steam consumption
- Improved gas recovery
- Greater production of pulp

- Higher pulp strength
- Lower bleaching costs
- Standard Packaged Panel Units

**Investigate Masoneilan Digester Controls and other specialized equipment for better pulp and paper production.**



**MASON-NEILAN REGULATOR CO.**  
1181 ADAMS STREET, BOSTON 24, MASS.

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New York • Syracuse • Chicago • St. Louis • Philadelphia • Houston  
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**10**  
♥

**NASH VACUUM PUMPS**  
*are simple*

One moving part. No valves, no pistons,  
no sliding vanes, no internal lubrication.  
This makes possible important operating  
advantages no other type pump offers.

*Plus-*

**NASH PAPER MILL  
KNOW-HOW**

**NASH ENGINEERING COMPANY**  
416 WILSON AVE., SO. NORWALK, CONN

This is so close to the fixed soda content that it obviously would not pay to consider more than two presses for this application. A Zenith press should have a capacity of approximately 125 tons, A.D. basis, per day on this application and would consume approximately 75 to 80 H.P.

6. *Extraction of Black Liquor* on the soda or kraft process involves the same principles as the above, but inasmuch as the chemical can readily be recovered for re-use, and the concentration of soda per ton of pulp is higher, it will pay to use three or more stages. In this application, any dilution water added to the system (less the portion that is discharged with the pulp) must be evaporated at an appreciable cost for both equipment and operating expenses. Hence it is invariably operated in counter-current; that is, the dilute effluent from the last press is used for dilution and wash water on the next press ahead; and the effluent from this press is used for dilution water of the next press ahead of it, etc. Hence, wash water is added to the last press only and, as it proceeds counter to the flow of the pulp, becomes more and more concentrated so as to keep the load on evaporators to a minimum.

The calculations are similar to the above, except that the conditions have to be set up at equilibrium and solved by a series of simultaneous equations. It can be shown that an average kraft pulp can be washed close to 30 lbs. of soda, expressed as salt-cake, using three presses in counter-current series, with a "dilution-factor" of a little under 3 lbs. water per pound of pulp.

Washing may be effected in three ways: By squeezing (as in a simple screw-press), by displacement (as in a well operated diffuser) and by dilution and diffusion with a liquid at a lower concentration. Diffusion, to be effective, requires time and adequate mixing. We are currently engaged in an experimental study of combining all three methods in one process. Thus, after the pulp has progressed to a point on the spindle close to the discharge, wash water under pressure is admitted through a series of small ports from the inside of the hollow spindle in such a way to form and maintain as far as possible an interface between the concentrated liquor remaining in the pulp and the wash water.

7. *Extraction of Water from Pulp.* This is a comparatively simple operation mechanically but offers an opportunity to cut costs and save considerable floor space. When a board mill is within easy shipping distance it is possible for a group of fine paper mills in the territory to dewater their knots and rejects in a press and economically ship them to the board mill. This appears to be the most satisfactory solution of what to do with rejects. After dewatering to about 45% consistency in the press they can be blown into a R.R. car or truck for shipment; or they can be loaded with a "carloader" and a screw conveyor. They can be unloaded with a grain-scoop or sluiced out with water to a repulper.

In a large mill operating several machines making different basis weight, it is often necessary to lap some of the pulp, put it in storage and later bring it back and repulp it again at an appreciable cost for handling into and out of storage. It is possible to dewater the pulp to about 40% consistency and either blow or mechanically convey it to a circular vertical storage tower until needed.

One other observation will be of interest. In operating the bleach-mixer it was noted that the pulp was being up-graded to a much greater degree than could be accounted for by the bleaching. Subsequent study revealed that the pulp was being deshived in the bleach-mixer, particularly when the plates were meshed considerably closer than required for just mixing alone. Best results are secured when the gap between the plates is between 1/8 and 1/16 inch, depending on the pulp and the degree of refining desired.



## **THIS CUTTER CUTS CLEAN**

This Bagley and Sewall Cutter cuts clean and accurately. It's designed for ease of operation and efficient performance with a minimum of attention. Has many exclusive features.

It will pay you to inquire about this Cutter. It's definitely doing a bang-up job of cutting. Has over eighty years of paper machinery building experience behind it.

Furnished in simplex, duplex, and triplex designs. Tell us your requirements.

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R. N. HOSKINS, industrial forester for the Seaboard Air Line Railroad, presents a check to William S. Fish of Taylor—Florida's 1931 state FFA forestry winner—to cover his expenses to the National FFA Convention at Kansas City, Missouri this fall. Fred Shaw (l.) vo-ag teacher of Taylor, and H. E. Wood (r) State Supervisor of Vocational Agriculture, look on.



### Burke Morden Heads Morden Machines

R. Burke Morden (left) vice president and general manager of Morden Machines Company, has been elected to the presidency of the company to fill the place vacated by the death of his father, C. W. Morden, founder. The directors also elected R. Blakeley Honeyman (right) vice president. He has been assistant general manager. Darrah Corbet is secretary-treasurer.

C. W. Morden organized the company in 1931 to manufacture the "Stock-Maker." Over 500 of these machines are now in use in 130 mills in 20 countries. Another one of C. W. Morden's inventions, the "Slush-Maker," a machine for pulping and mixing, recently has been introduced to the industry. The first commercial unit is operating at Rhinelander Paper Co.

Morden Machines Company is moving its office in Portland from the Pacific to the Corbett Building.

### Barnes in New Office in California

Mr. T. "Dick" Barnes, Jr., announces his change of address from P. O. Box 227, San Francisco, to a new office at 191 Kelton Avenue, San Carlos, California, phone LYtell 3-5209. Mr. Barnes has been appointed exclusive representative for Lodging Engineering Corp. in the Pacific Coast states. In addition to Lodging he also represents Red-Ray Manufacturing Co., Inc., Trimble Machine Works, and Brown-Hutchinson Iron Works.

### Big Timber Purchase For New Florida Mill

Purchase of 440,000 acres of forest land near Perry, Fla., has been effected by Buckeye Cellulose Corp., subsidiary of Proctor & Gamble, to supply its new dissolving pulp mill there. Lands were acquired from Brooks-Scanlon, Inc., for years operators of a large sawmill at Kentwood, La., Eastport, Fla., and then Foley, Fla., near Perry. The lands have an excellent stand of young growing pine. Saw timber has largely been cut. Brooks Scanlon had considered a paper mill at Foley; and had Sirrine (Greenville, S.C.) draw plans. The process to be used at Perry is being worked out by Buckeye Chemical Pulp Division in Memphis, Tenn., and sent to Sirrine & Co., Greenville, S.C. for translation into equipment and layout.

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with a **SMITH & WINCHESTER**  
**MODEL "E"**  
**UNDERCUT TRIMMER**



Completely new and massive design, heavy duty construction, two-hand starting, illuminated index tape, and push button controls for electric power back gauge drive. (Gear guards have been removed to show main drive.)

Paper Making Machinery  
Bag machinery for single and multi-wall bags of pasted and sewed valve type  
Rotary Spot Cutters, hand or automatically controlled  
Shower Pipes.



**Y**OUR investment in finished stock is large, particularly just before the trimming operation. Rejects and spoiled work resulting from faulty or inaccurate trimming are costly. Protect this investment with Smith & Winchester Model "E" Trimmers designed to meet today's needs for fast production, hairline accuracy and safety. Look into all the new features of the Model "E" Trimmer.

Write for Bulletin!

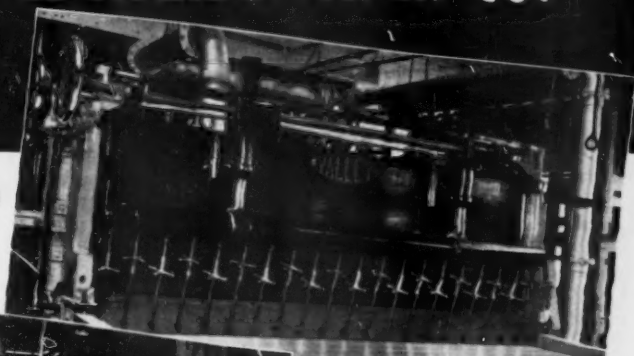
**THE SMITH & WINCHESTER Manufacturing Company**  
SOUTH WINDHAM, CONN.

SERVING THE PAPER INDUSTRY SINCE 1888



# *3 recent installations at* **NEKOOSA-EDWARDS PAPER CO.**

NO. 1 MACHINE



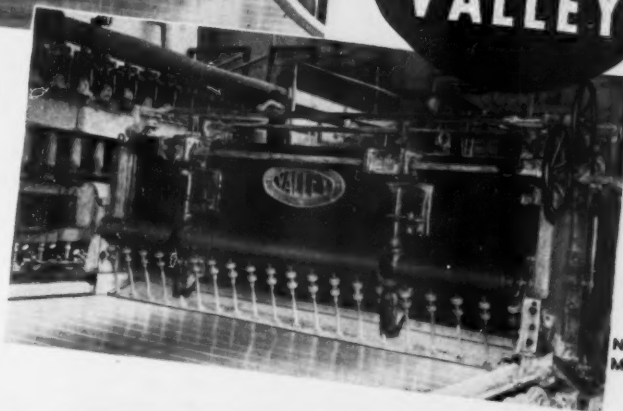
NO. 4 MACHINE



On MORE and MORE  
paper machines it's  
INLET and HEADBOX by

**VALLEY**

**INCREASED SPEED  
HIGHER TEST  
LEVEL SHEET  
FORMATION  
CALIPER**



NO. 6  
MACHINE

# **VALLEY** IRON WORKS CO.

APPLETON, WISCONSIN

# Personals

## EASTERN NOTES

Promotions at National Gypsum include **CHARLES D. HARLESS**, to assistant district manager of the New York district; **RALPH E. FRANK**, commodity manager of the rock wool division; **ERNEST A. HEKKING**, manager of the sundry mills division; and **LOUIS O. REINIG**, commodity manager of gypsum roof deck sales. With the exception of Mr. Harless, all the men will be in the Buffalo, N. Y., offices of the company.

Executive appointments of the Solvay sales division of Allied Chemical & Dye Corp. place **LESTER B. GORDON** as vice-president; **DENMAN PENISTON**, director of sales; and **JOHN H. ELHEMAN**, assistant director of sales.

**R. W. RAMSDALE**, formerly of Penick & Ford, has joined the paper chemicals department of Hercules Powder Co. He is currently chairman of Maine University's Pulp and Paper Foundation.

**WILLIAM A. HANWAY**, secretary of the International Paper Co., is acting as chairman of the paper committee for New York City's 1951 Cerebral Palsy Society's campaign. He will direct the campaign to the paper industry in the area.

**HAROLD E. MOLEY** has recently been named manager of the industrial paper division of the Paper Corp. of United States. He was formerly with the Brown Co., having served with that company since 1922, and for the past eight years was assistant sales manager of the company's paper sales division.

**IRVING C. BARNES**, Strathmore Paper Co., West Springfield, Mass., has been named a member of the committee on research of the National Association of Cost Accountants.

Appointments at General Electric Co. during the month include the naming of **SAM LITTLEJOHN**, **JOHN W. BELANGER** and **NICHOLAS M. DuCHEMIN** as vice presidents; **RALSTON B. REID**, as assistant manager of advertising and sales promotion of the company's apparatus marketing division; and **J. HERBERT BEHM**, as staff assistant to the manager of engineering of the small apparatus division.

**GEORGE W. SHANNON**, formerly a director and vice-president of Robert Gair Co., Inc., died at the age of 80 in Brooklyn, N. Y., September 25. Mr. Shannon had served his company for almost half-a-century, having joined his organization in 1903.

**EUGENE O. HANSON** has been appointed assistant manager of the paper division of Brown Co., Berlin, New Hampshire. Other Brown changes announced by **LAURENCE F. WHITTEMORE**, president, include the promotion of **H. P. BURBANK** to the position of manager, personnel and public relations—a post vacated when **DR. ARNOLD E. HANSON** resigned to accept a position with the University

of Toledo; and **W. L. GIVEN** to the position of manager, industrial relations.

New members elected to the Strathmore Advisory Council at the annual meeting of the group, September 20-21, included: **W. E. PORTER**, Cook-Vivian Co., Boston; **HELMER NELSON**, J. Linde Paper Co., New York City; **LEONARD RAYMOND**, Raymond & McNutt, Philadelphia; **FRED H. CHATFIELD**, Chatfield Paper Corp., Cincinnati; **H. A. HARTINGER**, Paper Supply Co., Minneapolis. The Council acts as a point of contact between the Strathmore Paper Co. and its 116 distributors. **WALTER J. DAMTOET**, assistant and acting director of OPS Forest Products Division, has resigned and returned to his position as assistant secretary and treasurer of Champion Paper and Fibre Co. **RUFUS I. WORRELL** has been named OPS acting director, with **M. C. WALSH**, also from Champion, taking over Worrell's former position as acting director of the Pulp, Paper and Paperboard Branch. **DAVE BIGELOW**, New England district representative for Weyerhaeuser pulp division, has returned to active duty following an illness of many months. Mr. Bigelow's headquarters are in Clinton, Mass.

**C. E. COLE**, The Mutual Boxboard Co. Utica, N.Y. was elected chairman of the New York-Canadian Division of the Superintendents Association for 1951-1952 at its meeting Sept. 6-8, at Saranac Inn, Upper Saranac Lake, N.Y. Elected with Mr. Cole were: **C. B. Davies**, E. B. Eddy Company, Hull, Que. (first vice chairman), **C. E. Reynolds**, Armstrong Cork Co., Fulton, N. Y. (second vice chairman), **R. E. Gray**, Gotham Paper Mills, Battenville, N.Y. (third vice chairman), **H. A. Horstmann**, General Dye-stuff Corp., New York, continues as treasurer; and **R. S. Greene**, H. Waterbury & Sons Co., Oriskany, N.Y., accepted the secretaryship, succeeding **L. D. Carner** of Lockport, N.Y.

**LAURENCE G. JOLLEY**, has been promoted from supervisor of the Rogue River, Ore., national forest to assistant regional forester in charge of the division of information and education, in Portland, Ore., it is announced by regional forester **J. Herbert Stone**, of the U. S. forest service.

**MICHAEL J. HAWKINS**, traffic manager and assistant purchasing agent at Bird & Son, Inc., East Walpole, Mass., manufacturers, has passed the 45-year mark of active service with the company. In recognition, fellow executives at Bird & Son honored him with a banquet at the Parker House, Boston.

## Pope Heads Committee For APFA

**Francis Pope**, director of industrial relations for past 21 years with Mead Corp., has been appointed chairman of the industrial relations committee of American Paper and Pulp Association. In addition, **W. A. J. Shaner**, labor relations director of Hammernill, fills new post of vice chairman of the committee. Ex-chairman **A. S. Anderson** of Champion, will remain active on the committee.

## Northeast Supts.

The Northeastern Supts. Division at Poland Springs, Me., elected these new officers: **James M. Wishart**, Oxford Paper Co., Rumford, Maine, chairman; **T. M. Barry**, Hollingsworth & Whitney Co., Waterville, Maine, first vice chairman; **Frank B. Harlow**, Penobscot Chemical Fibre Co., Great Works, Maine, second vice chairman; **Harvey H. Wilson**, Ryegate Paper Co., East Ryegate, Vt., third vice chairman; and **Mrs. Marion L. Stewart**, Lincoln, N. H., secretary-treasurer.

## Johns-Manville Elects

**Leslie M. Cassidy**, president of Johns-Manville Corp., New York, has been elected chairman and chief executive officer. He succeeds the late **Lewis H. Brown**. **Adrian R. Fisher**, vice president in charge of all asbestos mining, has been named president.

## C. H. Pennings Dies

The recent passing of **Charles H. Pennings**, Great Northern Paper Co., Millinocket, Maine, was announced at Poland Springs, Me., and the members in session at the Supts. meeting stood for a moment in silence in respect to his memory.

## Brooks Is Chief Engineer For Butterworth & Sons

**Stanley W. Brooks** has been appointed chief engineer of **H. W. Butterworth & Sons Co.**, Bethayres, Pa. Mr. Brooks was chief engineer of the Textile Finishing Machinery Co., Providence, R.I., when it was purchased by Butterworth in 1944. Since that time, he has been assistant sales manager of Butterworth's New England office and for the last year has worked in the engineering department at Bethayres.

## Two of the Men Behind Eastwood Wires—John Lancaster and Clarence Reed



### TEAM UP FOR THE "BIG STRETCH"

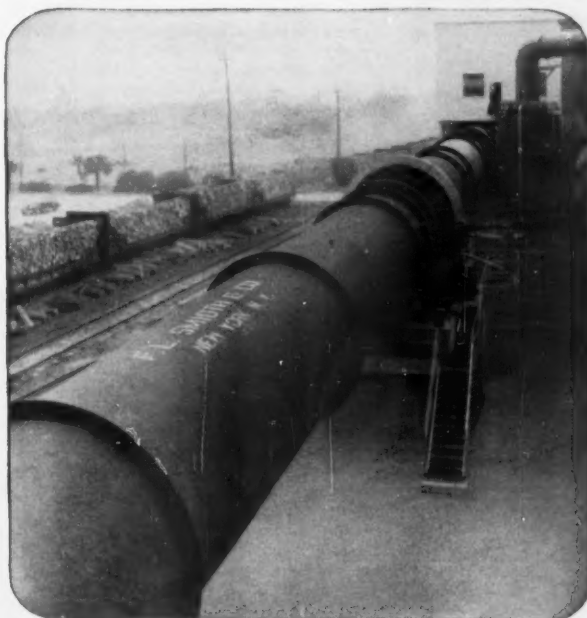
Here is a fourdrinier wire getting its final conditioning on the "stretching table". Only molten metal, centrifugally cast, weeks ago in our foundry, the many and varied skills in our large, completely integrated plant have transformed the alloys into a uniformly-woven wire that will enable some fine mill to maintain its reputation for top-quality paper.

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# SMIDTH

## ROTARY KILNS

For  
REBURNING LIME SLUDGE



The illustration above shows a modern, efficient, Smidth Rotary Kiln for reburning lime sludge at the plant of the West Virginia Pulp & Paper Co., Charleston, South Carolina.

F. L. Smidth & Co. are specialists in the design and manufacture of rotary kilns and have furnished numerous installations in many countries for burning lime, lime sludge, dolomite, magnesite, cement, ores, etc.

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# MACHINE TENDER Munchausen Stories

Our accepted contribution for this month in our series of Machine Tender Munchausen column, is another one contributed by the raconteur of West Linn, Oregon, Chas. E. Ackley (in picture), paper mill superintendent of the Crown Zellerbach mill there. This is the second story we've been pleased to receive and publish from Mr. Ackley, who recently completed a term as the national president of the Superintendents Association. Mr. Ackley has been a papermaker and operations executive in mills from his native state of Michigan to the Pacific Coast over a good many years, and he has gathered a fund of amusing stories. We are pleased to send to him the honorarium of \$5.00 for his contribution to this column.



Any story from any salesman or mill man which is accepted for this column will receive the same reward, and we cordially invite our readers to try their hand at telling one. This series has been carried in the magazine for over a year now, and quite a collection of stories has been submitted by our readers.

## Mr. Ackley's Story:

This was a one-machine cylinder mill with the only cylinder machine equipped with a shake that functioned twice every 24 hours, at variable speeds controlled by tide and wind velocity. At times, when the wind was at the right speed, the water and the stock would splash out of the vats.

Of course, this mill had many more outstanding pieces of equipment, such as the power plant, which was one old condemned steamboat boiler. Fuel for this boiler was wet slabwood brought to the mill on a barge and tied up at the boiler-room door. When the tides and the wind would permit, the fireman-engineer's duties included keeping the slabwood piled in front of the boiler and keeping water in the boiler to run the engine and blow the whistle, which was important.

One night, when on graveyard shift, I made my usual trip of inspection to see if he had a full crew in the boiler-room, and found this man, with four responsibilities, to be afloat on the barge, which had broken loose and drifted some 100 yards from the mill. This situation was taken care of by putting the backtender in a row boat with a lantern and a long rope, and sent out to recover the man, who arrived back in time to keep the fire

burning before the steam went so low that the engines refused to turn over.

Another night that remains with the writer, was the night the superintendent called the mill at midnight, and asked me to keep an eye on the power plant, because there was a new fireman on duty, with a long experience of two weeks firing a donkey engine in the woods. I informed the superintendent that I knew nothing about a boiler. The superintendent inquired: "Do you know what the water gauge glass is?" I said I thought I could find it.

The writer at once visited the power plant, and got acquainted with the donkey engine feeder, who was found to be alive and awake, and after inspection of the water gauge, I went back up to machine quite contented, looking forward to a good night's operation and some sleep.

Although the water in the boiler was low, at that time, the donkey engine dielectrician had promised that as soon as he put more slab in the boiler and got her hot, he would add more water. Due to my new responsibilities, I was unable to go to sleep, so I again visited the power plant, and looked for the water in the gauge glass, and discovered the water gauge empty. My first thought was to locate the man with the four responsibilities. After some time I found this man peacefully eating his midnight snack.

I hollered, "Hey! for gosh sake, there's no water in the boiler."

He started to run for the water valve, and I started to run for the steps leading to the machine room, and way points beyond. Passing the wet end in high gear, and arriving at the dry end in about five seconds, I woke up the balance of the crew, and ran out of the mill, expecting the boiler to go through the roof.

But it was not as badly condemned as the U. S. Navy predicted it was, and received the cold water gladly, which caused the steam to disappear, and the valves of the engine refused to function, and everything came to a peaceful rest. But, after about an hour, the steam was again popping off, and engines were started, machine was put in motion, and paper was forming on the cylinders, passing through the squeezers, over the steam-heated rollers, through the shiners, and winding up on the bobbin, at which time the writer and his crew declared a dividend for the night and retired to the broke car for some peaceful rest.

An advertisement in PULP & PAPER is ALWAYS WORKING—in every state and every region where pulp and paper is made in North America and in 40 countries around the world!

## Holt Named Manager Rayonier at Gray's Harbor

George A. Holt has been appointed resident manager of Rayonier Incorporated's Gray's Harbor Division, Hoquiam, Wash., according to a recent announcement by Clyde B. Morgan, president of the Company.

Mr. Holt joined Rayonier following his graduation from the University of Washington in 1927, and has served his company at the Gray's Harbor Division since 1929, where he has been superintendent, and at the time of the recent appointment was assistant resident manager. In his long association with the company he has been identified with the production of purified wood cellulose of high quality, and of pulp and paper products.

## Cooperate on Hardwoods In New Hampshire

The Tekwood Division of U. S. Plywood Corp., Lakeport, New Hampshire, is cooperating with the Northeastern Forest Experiment Station at Laconia in the logging of hardwoods from the Bartlett Experimental Forest in the heart of the White mountains, according to Victor S. Jeusen, who is in charge of the Station for the U. S. Forest Service. The agreement—made this year—is to cover a 10-year period.

Under the terms of the agreement Tekwood agrees to log and dispose of all the hardwood stumpage designated by the Station. All the hardwood veneer logs—birch, beech and maple—will be used in the Tekwood plant at Lakeport. Of the balance logged this year, True Temper Corp. has been taking the ash for handle stock; softwood logs have gone to Diamond Match Corp.; Brown Co. has taken the pulpwood logs; and Kearsarge Peg Co. has been taking a limited quantity of boltwood for wooden shoe pegs.

## Superintendents To Elect Officers

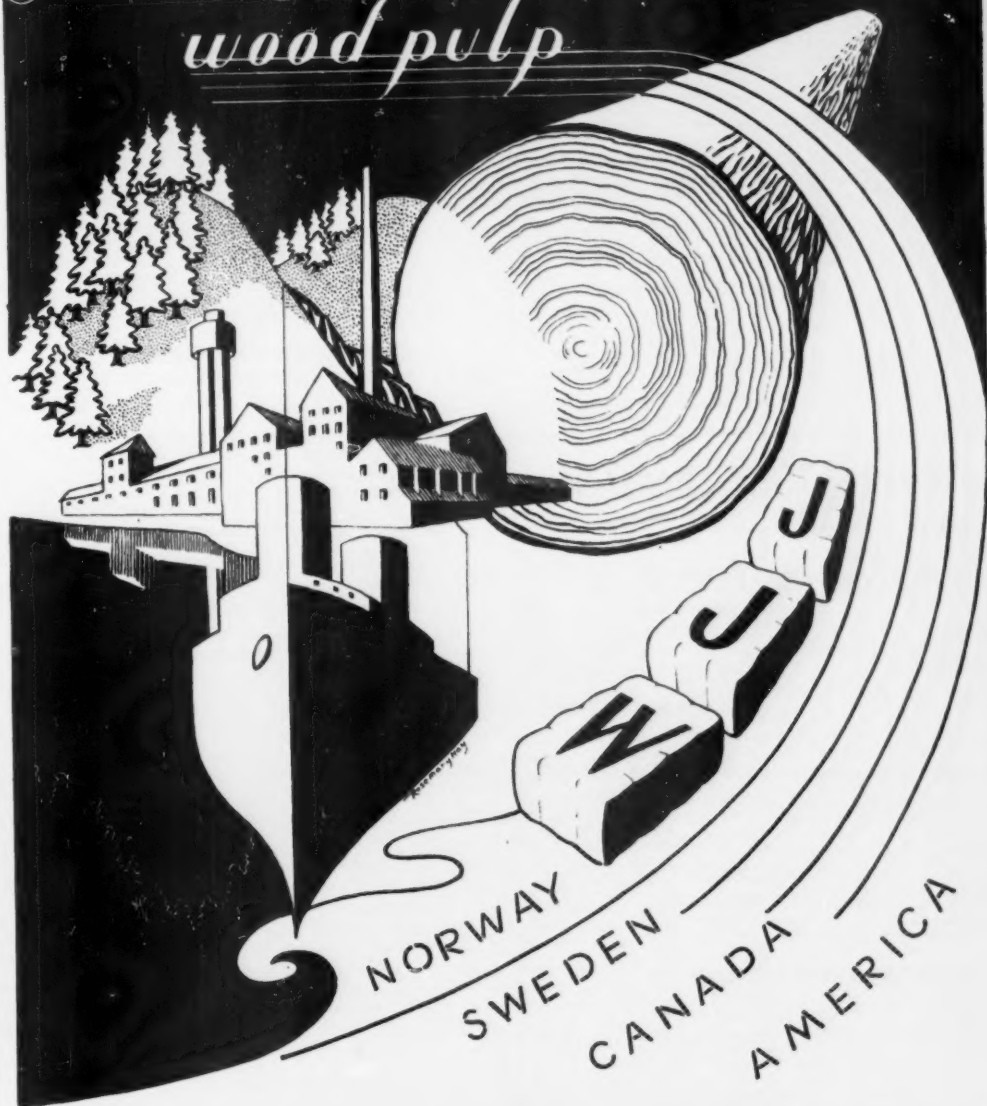
L. H. Hartman, Pulp Division, Weyerhaeuser Timber Company, Everett, Wash., and Chairman Pacific Coast Division of the American Pulp & Paper Mill Superintendents, has issued notice of the annual meeting for the election of officers in Seattle, November 30th, at the New Washington Hotel. There will be only a one day program since the membership has so recently attended the National Convention in Portland. The morning of the 30th will be devoted to mill visits while the afternoon will be given over to several papers. Under the guidance of W. W. Clark, Third Vice-chairman of the Longview Fibre Company, Longview, Washington, who will act as general chairman of the meeting, C. L. Walton, Simpson Logging Company, Shelton, will arrange for the speakers and papers; Gordon Anderson, Puget Sound Sheet Metal Works, Seattle, is handling registration; Carl Castle, Dow Chemical Company, has charge of printing and publicity and entertainment is headed by Jerry Morrell of Van Waters and Rogers.

In the evening following the technical session there will be a dinner and dance for the registrants and their wives.



**JOHNSEN JORGENSEN & WETTRE LTD.**

*wood pulp*



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M. T. "MOGUL"—Modern Diesel 1600 Horsepower, equipped with radar, telephone, fathometer and direction finder. Cruising radius—30 days.

Chemical Carrier "GRIFFCO"—1500 short tons liquid capacity. 150 short tons special bulk chlorine carrying capacity.

Barge "GRIFFSON"—1750 short tons—open deck and towage capacity—for special cargoes.

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Engineering construction organization with extensive pulp and paper mill projects under way has immediate openings in New York office for paper mill design and layout Engineers. Please give complete engineering and biographical background in first letter. Write P&P Box No. 100, c/o PULP & PAPER, 71 Columbia St., Seattle, Washington.

## FOR SALE

Three Trimby 72" Rotary Knotters, Stainless Steel Plates.

One Oliver Young type 8' x 8' Vacuum filter.

Two Pulp Bleaching 8' x 6' Vacuum filters.

Two Pulp Bleaching 6' x 6' Vacuum filters.

One Impco 8' x 6' Washer Thickener for tile vat with separately driven repulper.

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The Southern States  
States of: Ala., Ark., Fla., Ga., La., Md., Miss., N. C., Okla., S. C., Tenn., Tex., Va., W. Va.

### PULP & PAPER Mill Directory

Pacific Coast  
States of: Ariz., Calif., Colo., Idaho, Mont., Ore., Wash., and British Columbia

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Pacific Coast . . . . . \$3.50

☐ Pulp & Paper Mill Directory  
The Southern States . . . . . \$3.50

☐ Both for . . . . . \$6.00

☐ My check accompanies order

• Key personnel • Production data • Pulpwood contractors (South)

### WANTED

Used Waldron Reverse Roll Coater with 12-inch to 40-inch web. With or without extra equipment. Please reply to: P&P Box No. 101, c/o PULP & PAPER, 71 Columbia Street, Seattle 4, Wash.

### SALES ENGINEER WANTED

With pulp mill experience, by well-established machinery firm in Chicago. Opportunity for advancement. Please reply to: P&P Box No. 102, c/o

PULP & PAPER

71 Columbia Street, Seattle 4, Wash.

### Roots-Connersville

#### Announces Promotions

Promotions of E. P. Roudebush to works manager in charge of production, D. A. Johann to sales manager, in charge of sales and advertising, and A. E. Caudle to assistant sales manager, have been announced by Robert H. Owens, president, Roots-Connersville Blower Corp., Connersville, Indiana, one of the Dresser Industries.

Mr. Roudebush joined Roots-Connersville in 1950; is a graduate of Ohio State. Mr. Johann, graduate of Penn State, joined Roots-Connersville in 1946 as did Mr. Caudle, Oregon State College.

### Struthers Wells Heaters

Struthers Wells announces a standard line of direct fired heaters, capacities 100,000 BTU per hour to 15,000,000 BTU per hour. This equipment is designed for a wide range of applications, including indirect circulating heating using heat transfer mediums such as Dow-therm, and for direct heating of vapors and liquids. Temperatures range to 750° F or above.

The equipment is designed for high thermal efficiencies and trouble free operation. New Bulletin B-45 describes this equipment. For a copy write to this publication or direct to Struthers Wells Corp., Warren, Pa.

# NEENAH WATER TREATMENT



NEW WATER TREATMENT PLANT is previewed above. On this view of the lakefront, taken from the top of the new Lakeview warehouse building, artist Pete Giovannini, Kimark, Division of Kimberly-Clark, superimposed a drawing of the Infelco plant.

Clear, pure water is a prime necessity for making cellulose wadding on paper. For years, the Lakeview Mill of Kimberly-Clark Corp., at Neenah, Wis., has had to depend 75 per cent on wells, even though it has a large lake at its back door.

Now there will be a new water treatment plant complete for the Lakeview mill which will prepare the lake water for mill use.

The plant will be generally similar to the one built several years ago at Niagara Falls, N.Y., but incorporating improvements in the process worked out since then by the manufacturer, the International Filter Co. (Infelco) of Chicago. The system is known as the "Accelerator" type of water treatment.

The building itself, to be located on the

edge of the lake at the point where the intake line now intersects the shore, will be made of brick and concrete, 54 feet by 80 feet. The foundation, of concrete, will extend down some ten feet below the water level of the lake in one of the unusual features of the building, and at this level will be the large rectangular clear well, or storage tank for the treated water supply. Above this will be the tank in which the treatment of the water takes place, together with the pumps and other

processing equipment. The top part of the building will be of red brick to match the rest of the mill buildings.

## Same Intake

The present water intake, which lies some 600 feet offshore in the lake, will continue to be used, but additional precautions will be taken in the form of two new screens. A new bar screen will be installed at the intake, and an automatic "traveling screen" with a  $\frac{1}{8}$ -inch mesh will further screen the water at the plant.

The process will remove the solid matter, color and odor from the lake water by what is known generally as the "chemical coagulation" process. Liquid alum will be added to the lake water in the Accelerator tank to settle out foreign material, after which the water is chlorinated and treated for odor. The purified water will flow by gravity into the clear water below, from where it will be drawn in through an underground pipeline.

## Automatic Operation

Controls in the plant will be fully automatic, with a duplicate set of instruments in the boiler house. This will make it unnecessary to have a full-time operator.

A by-product of the new plant will be additional security in case of fire.



B. V. JONES  
new Adv. Mgr. Link-Belt Co., Chicago, succeeding late Julius S. Hall. Mr. Jones was Exec. Asst. Adv. Mgr. John F. Kelly continues as Asst. Adv. Mgr.

## CHANGES TO PRESSURE HEADBOXES

Over a year ago a pressure type headbox, developed by Beloit Iron Works, was installed on No. 6 paper machine of Crown

Zellerbach Corp., West Linn, Ore. After a few months operating experience with this unit, the headbox on the adjacent No. 5 machine was converted to the pressure type in November. Coated paper, one of the plants' specialties, is made on both No. 5 and No. 6 machines.

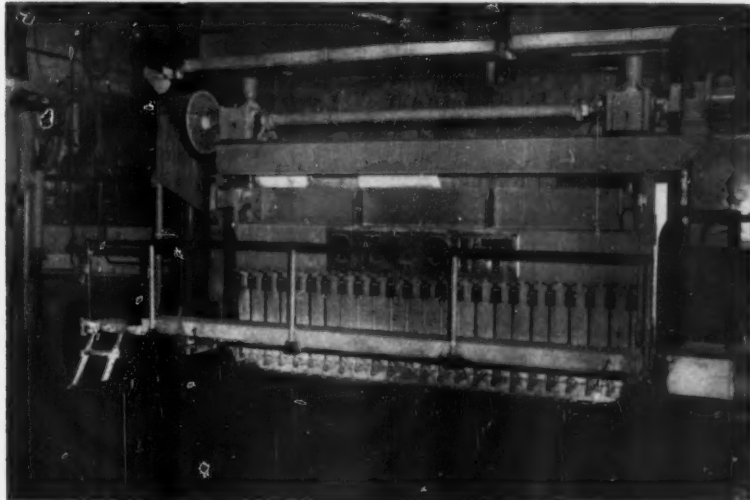
These changes converted open type Beloit headboxes into pressure type units by removing baffles, installing rolls, sealing the unit and applying air under pressure.

The conversions have adjustable, flexible-lip slices, the same as were used for the open type headboxes. However, rubber aprons were replaced with steel apron boards for the pressurized units.

According to Charles Ackley, paper mill superintendent, the objectives for changing to pressure type headbox included getting a more even sheet and better formation. He says the speed on No. 5, which makes both coated and non-coated papers, has been increased about 9% or 100 f.p.m. This machine's speed ranges from about 1000 to 1200 f.p.m., depending on weight and grade of the paper.

The pressure type headboxes operate at 36 in. to 70 in. pressure, of which 36 in. is provided by water pressure and the balance obtained by air pressure. These headboxes have been built for using a vacuum for running slower speeds.

NO. 5 MACHINE OF CROWN ZELLERBACH CORP., West Linn, Ore., using pressure type headbox developed by Beloit Iron Works for making paper at 1000 to 1200 f.p.m. The machine was running 1166 f.p.m. on 34 lb. Rotaprint when this photograph was taken by PULP & PAPER.

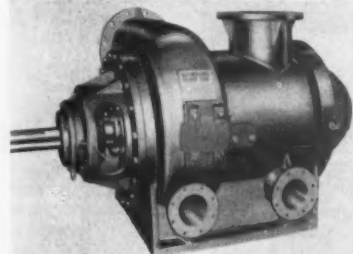


## News and Notes from EQUIPMENT AND SUPPLY COMPANIES

### Haskell Elected Exec. V.P.

Black-Clawson Co. has announced promotion of Mr. John D. Haskell to the position of executive vice president. He will direct all divisions and subsidiaries including the world wide export organization and B-C International, Ltd., with headquarters in London.

**THE RELIANCE ELECTRIC & ENGINEERING COMPANY**, 1088 Ivanhoe Road, Cleveland 10, Ohio, announces elevation of Paul W. Arnold and Richard A. Geuder, two top engineers to new responsibilities in the company's general sales organization. E. E. Helm, sales vice president, said Mr. Arnold, who has served as manager of product sales for the past several years, moves up to the newly created post of executive assistant to the sales vice president, and Mr. Geuder, who since 1944 has headed the company's application engineering work, becomes manager of a new department of applied engineering and industry sales.



**THE SUTHERLAND REFINER CORP.**, of Trenton, N.J., has recently perfected a machine (shown in picture) for the selective defibering of pulps and waste papers that also removes tramp metal efficiently. Called the Breaker Trap by Sutherland, the machine will handle up to 350 tons per day, and uses from 50 to 200 horsepower. It is normally installed between the pulp storage and subsequent equipment, and operates at the capacity of the following equipment. Considerable savings in power result from its use. A descriptive folder is available on request.

**INFILCO CLARIFIERS** featuring maximum sludge removal, rapid settling, and positive scum removal are described in a recently published bulletin. A wide range of tank sizes are offered for primary and secondary clarification. If desired, write Inflico Inc., Box 5033, Tucson, Arizona for Bulletin W-800, **QUIESCENT CLARIFICATION**. Waste treatment to comply with Stream Pollution Control Regulations is the title of another Inflico bulletin explaining the "How" techniques of chemical, biological, and anaerobic waste treatment. It gives case histories and data of value to those responsible for waste treatment. If desired, write Inflico Inc. for Bulletin 70 A.



**V. J. "VIC" FAWCETT**, (on left) Lufkin Foundry & Machine Company, Lufkin, Texas, has been appointed Pacific Coast Manager in charge of Industrial Gear Sales, it was announced recently by E. P. Trout, Vice-President. Headquarters will be at Los Angeles. Mr. Fawcett's new responsibilities include formation of distributorship system in California, Oregon, Washington, and Arizona.



**JOHN A. HAMM**, (right) Sales Mgr. of Shartle Bros. division of Black-Clawson Co., his offices at Middletown, O., has two good reasons for wanting to get on road more and visit mills. His two sons are engineers in the industry—John Hamm, Jr., is an Asst. Engineer at Florida, Pulp & Paper Co., Pensacola, Fla., and Al Hamm is Chief Engineer at Raymond Bag Co., Middletown, Ohio.

A NEW 44-PAGE BOOKLET on the fusion welding of nickel and the high nickel alloys has just been published by The International Nickel Company, Inc. It contains 44 pages and includes more than 30 tables and almost 50 drawings and photographic illustrations.

A complete technical treatise on the subject, it covers various forms of electric arc welding as well as gas welding. There are over 20 chapters and sections covering, in addition to detailed welding instructions, such information of importance to production and welding engineers as the boiler code of the American Society of Mechanical Engineers, pickling, testing and inspection safety methods and associated topics.

The booklet, designated as Technical Bulletin T-2, is available without charge through the Technical Service Section of The International Nickel Company, 67 Wall Street, New York 5, N.Y.



**NORMAN J. JOHNSON** is newly named Assistant General Mgr. of Griffith Rubber Mills, Portland, Ore., announces Zina A. Wise, president.

Mr. Johnson has been with Griffith ten years, as Assistant Treasurer since 1947. In new position he will supervise development of specialty products as well as lines of finished rubber goods. Mr. Johnson is member of the rubber industry advisory committee in Washington, D.C.

**DILTS MACHINE WORKS**, division of The Black-Clawson Co., announces that its laboratory has on hand a number of 3 ft. diameter pilot plant Hydrapulpers which can be made available to any mill desiring to test the merits of the Hydrapulper as applied to their own stock preparation systems. The design and construction of these 3 ft. units follows the same principles as applied to the larger commercial sizes of Hydrapulpers. Any interested mill can obtain full particulars by writing the Dilts Laboratory, at Fulton, N.Y.

**ALLIS-CHALMERS** totally-enclosed motors with air-to-water heat exchangers are described in a new bulletin released by the company. Properly fitted enclosures keep out dust, dirt, fumes and excess moisture, according to the bulletin. As a result, maintenance is reduced and machine life lengthened. The bulletin includes a description of the three types of cooler arrangement—foundation, side or top-mounting—built into the motors and explains how to estimate their water requirements. Copies of the bulletin, "Allis-Chalmers Totally-Enclosed Motors With Air-To-Water Heat Exchangers," 05B7682, are available upon request from Allis-Chalmers Mfg. Co., 995-S. 70th St., Milwaukee, Wisconsin.

**HENRY H. REICHHOLD**, chairman of the board of Reichhold Chemicals, Inc., New York, announces signing of an agreement whereby RCI's complete line of synthetic resins for the paint and varnish, plywood, paper and textile industries will be manufactured in Brazil by Resana S. A. Industrias, Quimicas, Sao Paulo. A new plant, incorporating the latest resin manufacturing techniques employed in Reichhold operations in the United States and Europe, will be erected by Resana on the outskirts of Sao Paulo with the assistance of RCI engineers.

**HONEYWELL VACUUM BREAKERS** are used to protect valuable equipment such as tanks, boilers, reactors, stills and other closed vessels from the damaging effects of a vacuum build-up. Specification Sheet 413-1 fully describes these inexpensive devices giving pertinent data as to sizes, construction, operating pressure and relief capacity, available by writing Station 40, Minneapolis-Honeywell Regulator Co., Wayne and Windrim Ave., Philadelphia 44, Pa.

**SOLVAY SALES DIVISION**, Allied Chemical & Dye Corp., is offering a new, completely revised, edition of their Technical & Engineering Service Bulletin No. 9, "The Analysis of Alkalies." This third edition has been enlarged and contains 72 pages of text, tables, charts and indexes. Requests should be addressed to Solvay Sales Division, Advertising & Sales Promotion Dept., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N.Y.



### Early Rotary Cutters By Moore & White Co.

Interest in rotary-cutter layboy units which are being speeded up and made more automatic, thereby cutting the per ton cost of paper production has brought forth some valuable historical data from Conrad J. Kern, former president and now chairman of Moore & White Co., and still active in its business.

He recalled that one of his first assignments on joining Moore & White back in 1890 was to work on drawings for rotary cutters. Laboriously checking through the old records he came up with these facts:

The first continuous feed rotary sheet cutter by Moore & White was delivered to D. M. Bare & Co., Roaring Springs, Pa., Dec. 5, 1889. This was an 82 in. wide cutter with four pairs of slitters.

Seven more were delivered in 1890 by Moore & White. Three went to William M. Singerly to his mill in Singerly, Md., one 62, one 82 and one 92 inches.

A 76 in. rotary cutter with four pairs of slitters was delivered to the Morrison & Cass Mill at Tyrone, Pa., now owned by West Virginia Pulp & Paper. An 82 in. cutter was delivered to Pennsylvania Pulp & Paper at Lock Haven, Pa., and an 88 in. with four pairs of slitters to Clarion Pulp & Paper, Johnsonburg, Pa. These mills are now owned by New York & Penns.

On Dec. 31, 1890 a 62 in. rotary cutter with four pairs of slitters was delivered to L. G. Weeks at Skaneateles Falls, N. Y.

### Black-Clawson Men In Key Positions

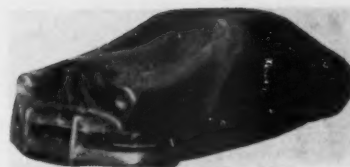
M. E. Cody, vice president and general manager of The Black-Clawson Co., Hamilton, O., division, has announced appointments of Frank T. Peterson, as assistant to the general manager of the Hamilton division and George M. Pennock, as chief development engineer, also of the Hamilton division of Black-Clawson.

Mr. Peterson, formerly deputy managing director of Black-Clawson's British subsidiary B-C International Ltd., London, has been with Black-Clawson five years and during that time has represented Black-Clawson, Shartle, Dilts in the British Commonwealth, Continental Europe and the U.S.

Mr. Pennock, former director of export engineering for the Black-Clawson export department located at the Shartle division in Middletown, enjoys wide acquaintance throughout the industry. He will be in charge of all new Fourdrinier, cylinder machine and auxiliary equipment developments by Black-Clawson.

### Fred C. Boyce Award

The Superintendents Association, to honor the name of Fred C. Boyce of Wausau, Wis., president of D. J. Murray Co. and a founder of the association, is establishing student awards in his name. The Fred C. Boyce Student Awards are being instituted at the University of Maine, State University of New York, and Western Michigan College, each for \$200.

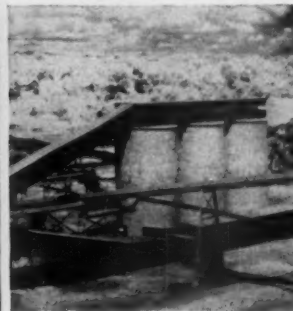
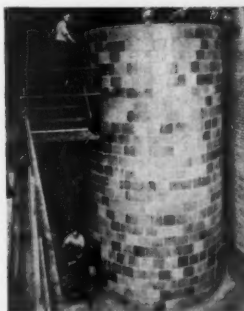


### Portable Plastic Garage

American Agency, 799 Broadway, New York 3, N.Y., is now marketing a vinyl plastic all-weather complete car protector (shown in picture), known as the "PLASTIC FILM GARAGE" that protects an automobile against rain, dirt, and dust. The extra heavy gauge vinyl plastic will not mildew, crack or peel—and the elastic bottom holds the cover snugly around the car. Its weight is only five and a half pounds, and one of its outstanding points is the fact that this product saves the time and energy involved in frequent car washing. \$12.95 postpaid.

### Bauer President Tours

J. C. Shouplin, president of The Bauer Bros. Co., Springfield, O., toured the Pacific Northwest early in September visiting hardboard, softboard, and pulp mills of Oregon, Washington and British Columbia. Kenneth Wylie, Bauer western representative, Eugene, Ore., accompanied him on western phase of the trip.

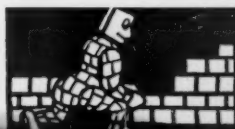


## STEBBINS SEMTILE and SEMPLATE CONSTRUCTION

—is extensively used to provide better operation and longer life for vessels, chests, treating or storage tanks used in the pulp and paper industry.

Whenever you have a lining or tank problem consult a Stebbins engineer. This advice is based on experience gained over many years devoted to meeting the needs of pulp and paper mills.

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*For Pulp  
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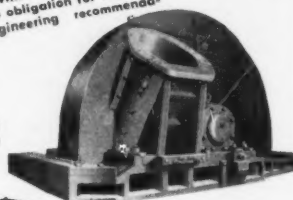
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**MURCO  
Multiple Knife  
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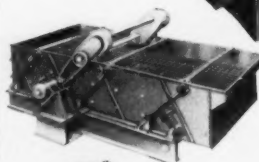
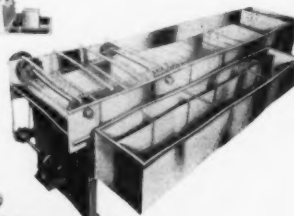
**MURCO Portable  
Wood Chipper—**



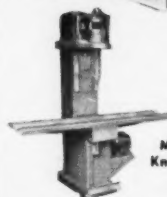
**MURCO  
Multiple Knife  
Discs**



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MIAMI WOOLEN MILLS  
Established 1858

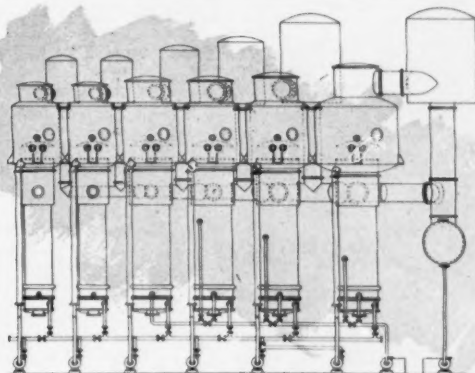
From the way water pours through the mesh of a Hamilton Felt a feller would think that it is *all holes*. But when you look at the finish of your sheet you'll think that Hamilton Felts must be *all nap*.

From the thinnest tissue to the heaviest board there is a Hamilton Felt that will do your work better, faster and at lower cost.

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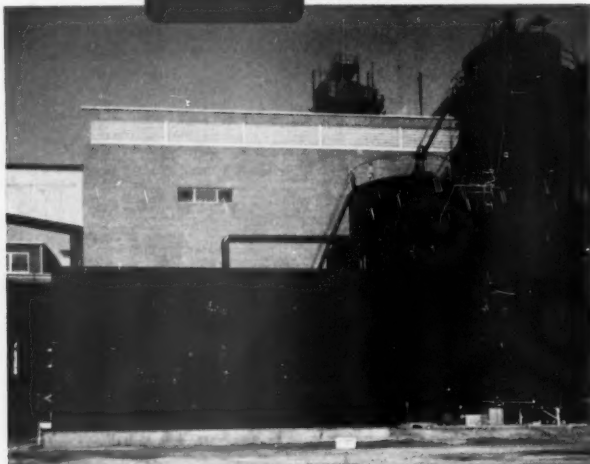


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FOR USE WHERE PAINTS FAIL

*"3 in 1" protection*  
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- 1 We develop and test our own mastics and paints.
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You also get *impartial advice* . . . for ERKOTE protective coatings include . . . mastics, paints, synthetics and plastics!

Development *plus* manufacturing *plus* application mean no *division* of responsibility when you select ERKOTE Mastics for insulating or protecting against corrosion. And your savings will be *multiplied* year after year, for ERKOTE Mastics give lasting protection under the most severe conditions. Every way you *add* it, ERKOTE Mastics are the solution to your problems! For complete technical information write to:

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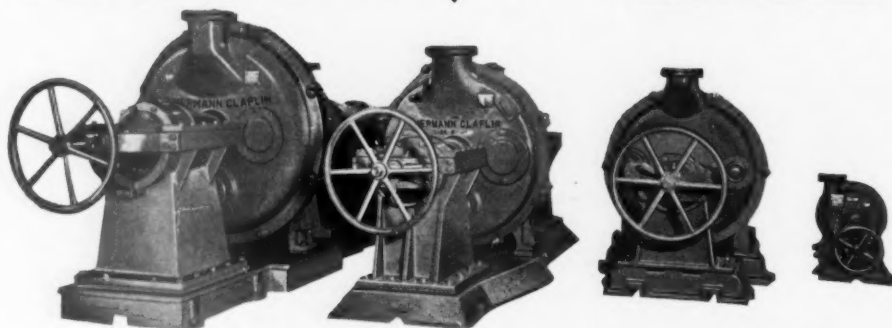
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Years of outstanding service in pulp and paper mills in the United States and Canada have proven the superiority and dependability of Stainless Metal Screen Plates made by Union Screen Plate Company. Available in styles and types for all purposes, for both flat and rotary screens.

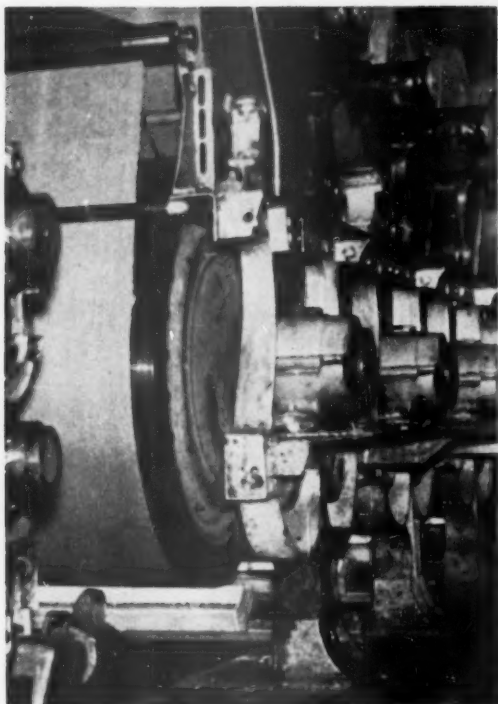
"UNION" can also supply Screen Plates of the following types in any style of cut or number of slots per inch —

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**UNION SCREEN PLATE CO. OF CANADA, LTD.**

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*Red Ray Burners deliver heat at the wet end of the process. The rapid heat-up increases drying capacity on present equipment. Drying starts immediately.*

*Write for information.*

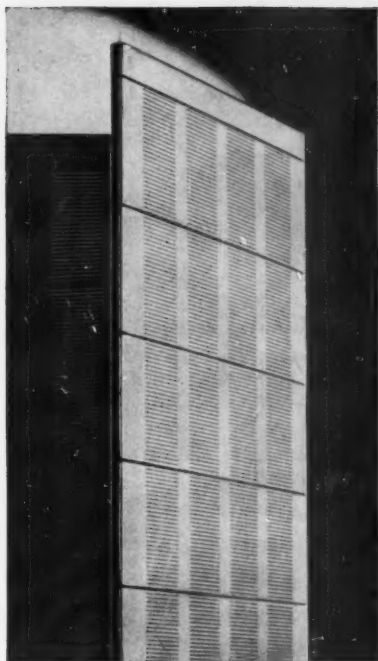
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## the *New* Gilbert & Nash 434 UG Wire and Felt Guide

This newest guide of the 50 year old Gilbert and Nash line features Low Head design and enclosed reduction gear. Speed to 2000 1/min. Engineered throughout to traditional Gilbert and Nash standards. Write for complete specifications.

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## Here's Why More Than 30,000 FABRICATED SCREEN PLATES Are Now In Service

"Hardy" fabricated screen plates, made by Magnus, have a high-strength, thin-sheet design—specially engineered for maximum flow. That's why you're sure of these 3 service-proved advantages:

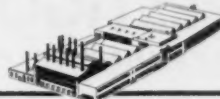
**1. Increased Plate Capacity**—The thin sheet eliminates relief milling, and with recommended arrangement, substantially increases capacity per plate.

**2. Longer Life**—Slots remain sharp, side walls highly polished for

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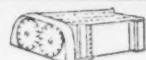
**3. High, Sustained Yield**—You get consistent, uniform quantities of cleaner pulp.

It all adds up to improved performance at reduced operating costs. Complete information is yours on request. Or if you like, we'll gladly have an engineer call.

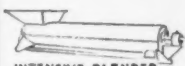


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*Metalworkers for the Paper Trade*

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## No better time to consider Gruendler Pulp & Paper Machinery

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All-Out Pulp Production is "the order of the day". Heavy duty, 24-hour per day, powerful Machinery is required.

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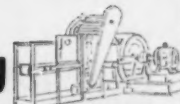
Gruendler Machinery is efficient. Embodies many new, yet proved, ideas. Innovations that greatly simplify production steps.

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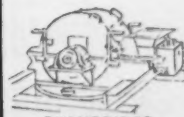
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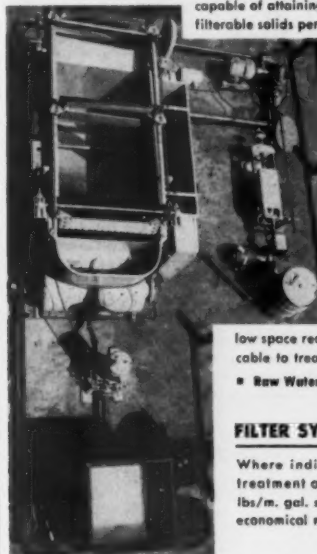
## BULKLEY, DUNTON PULP CO. **COLLOIDAIR** SAVEALLS and WATER SYSTEMS

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- white water fibre recovery
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Bulkley, Dunton Pulp Co., Inc., Engineering Division maintains a complete line of water engineering service and equipment to meet the specific needs of the paper industry.

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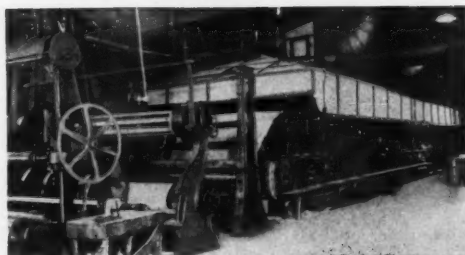
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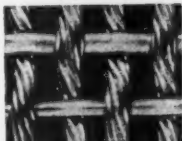
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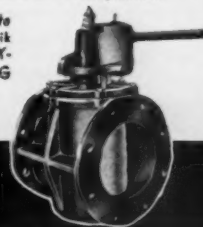
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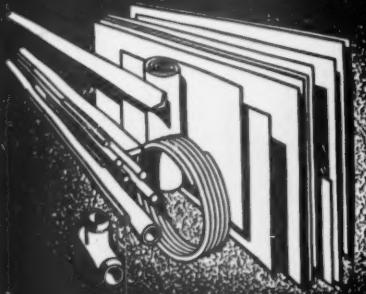
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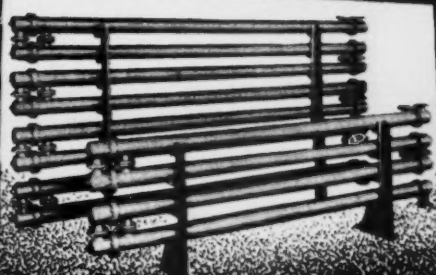


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Of Pulp & Paper, published monthly except in June when published semi-monthly, at Bristol, Connecticut for October 1, 1951.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Miller Freeman, 71 Columbia St., Seattle 4, Wash.  
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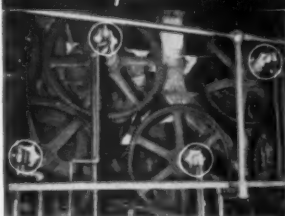
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**but more important, we want you  
to get the most out of them!**

Our job doesn't start or end with selling screw conveyors. More important, our engineers work hand-in-hand with you—or with your consulting engineers...recommend the exact type of screw conveyor to fit your individual application.

Note these features: Link-Belt Screw Conveyors are simple and compact...have less wearing

parts. They are accurately made to insure smooth operation and complete interchangeability of parts.

Further, these screw conveyors are manufactured in a full range of diameters, gauges and pitches...can be made of the metal most suited to your particular job. And Link-Belt builds all of the components such as collars, couplings, hangers, troughs, box ends, flanges, thrusts, drives, etc. For full information write direct or contact your nearest Link-Belt representative.



**HELICOID OR SECTIONAL CONVEYOR SCREWS**—for general screw conveyor applications. Can be furnished in the metal and finish best suited to your purpose, with components selected from the most complete line.

TE 540-C



Link-Belt Helicoid Screw Conveyor, 100 feet long with twin 9-inch diameter screws, transferring wet pulp from filter to bleach chest.

**LINK-BELT**

**SCREW CONVEYORS**

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices in principal cities.

# PULP

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*Established 1846*

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